





# **INDEPENDENT OFFICES APPROPRIATION BILL, 1927**

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## **HEARING**

**BEFORE**

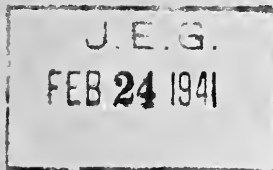
## **SUBCOMMITTEE OF HOUSE COMMITTEE ON APPROPRIATIONS**

**CONSISTING OF**

**MESSES. WILLIAM R. WOOD (CHAIRMAN),  
EDWARD H. WASON, JOHN W. SUMMERS, JOHN N. SANDLIN,  
AND THOMAS H. CULLEN**

**IN CHARGE OF THE**

**INDEPENDENT OFFICES APPROPRIATION BILL FOR 1927**





THURSDAY, FEBRUARY 4, 1926.

## SMITHSONIAN INSTITUTION

STATEMENTS OF ALEXANDER WETMORE, ASSISTANT SECRETARY; W. DE C. RAVENEL, ADMINISTRATIVE ASSISTANT; H. W. DORSEY, CHIEF CLERK; J. WALTER FEWKES, CHIEF, BUREAU OF AMERICAN ETHNOLOGY; LEONARD C. GUNNELL, ASSISTANT IN CHARGE REGIONAL BUREAU FOR THE UNITED STATES OF THE INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE; AND L. P. ALDRICH, ASSISTANT ASTROPHYSICAL OBSERVATORY

Mr. Wood. Have you any statement you desire to make with reference to the activities of the Smithsonian Institution during the past year?

Mr. WETMORE. Mr. Chairman, Doctor Walcott is absent from the hearing this afternoon on account of sickness, and he has asked me as assistant secretary to appear on behalf of the institution to present explanation of these items to the committee.

Our conduct of work has gone on as usual. All of the activities scheduled in the appropriations have continued as in past years.

There have been some very interesting discoveries made by men on the scientific staff. Our work has been replete with interesting and valuable material and has included many interesting additions to the exhibits in the National Museum.

During April, 1925, I was appointed in the institution as assistant secretary in charge of the National Museum, with administrative charge over the National Gallery of Art and the National Zoological Park, and I have been engaged in that work during the past year.

I desire to say, Mr. Wood, that the regents of the institution from the House of Representatives wish to be heard in connection with these items this afternoon.

## INTERNATIONAL EXCHANGES

Mr. Wood. I notice in your first item for international exchanges you are asking for an appropriation of \$45,760 for the next fiscal year, as compared with an appropriation for the current year of \$46,260. That is a decrease of \$500.

Mr. DORSEY. Yes, sir. That is the appropriation for international exchanges. The amount appropriated for that item for the current year was \$46,260. We estimated for the same amount that we have this year for 1927, but that has been reduced in the Budget to \$45,760, or a reduction of \$500.

I might say that the operations of the exchanges on the basis of the past six months show that there has been an increase in the amount of business handled of 33,000 pounds over the amount of business handled in the corresponding period last year. On that basis we would need the full amount of the appropriation for the current year—that is, \$46,260.

Mr. Wood. What are you going to do in order to keep within the \$45,760?

Mr. DORSEY. We would not be able to handle the material that comes to us.

Mr. WOOD. Is there any variance in the cost of these exchanges? Is there any cost for the exchanges themselves, or does the cost all come in the handling of them?

Mr. DORSEY. The cost all comes in the handling of them; yes, sir.

Mr. WOOD. So this item is for personal services?

Mr. DORSEY. This item is largely for personal services and freight.

Mr. WOOD. I notice this item limits the amount that may be expended for personal services in the District of Columbia to \$23,000?

Mr. DORSEY. Yes, sir.

Mr. WOOD. How are you going to expend the difference between \$23,000 and \$45,760?

Mr. DORSEY. That is largely for freight. We estimated that we would require for freight and other transportation charges, \$19,000 this year. We actually expended for this purpose in 1925, \$18,905.18, and we estimated this year for \$19,000. We have had to reduce the total estimates in order to make them come within the total amount we have, although the business will probably exceed the amount we have had this year. There has been an increase of 33,000 pounds in the past six months over the corresponding period last year.

Mr. WOOD. If you spend \$19,000 for freight and other transportation charges and \$23,000 for personal services, that will make \$42,000. How will the remainder of the amount be expended?

Mr. DORSEY. That is divided among various items, such as supplies, materials, equipment, furniture, office machines of various sorts, and educational equipment, which would include directories and things of that sort, and the transportation and conveying equipment, which is largely boxes. It is all used in connection with the transportation of these documents.

I might say in connection with these boxes that whereas heretofore we have spent an average of about \$1.20 each for new boxes, we have economized in that matter so that we now take old boxes and knock them down and use them again. We have an employee in the Smithsonian Institution who does that work, and in that way we have saved about \$500 during the past year.

Mr. WOOD. You use the boxes in which material comes to you for sending out your material?

Mr. DORSEY. Yes, sir; and we also use the original boxes that we buy when they are returned. On these returned boxes there may be a good top and a good side, and we take them apart and save that material for use in sending out other shipments.

Mr. WOOD. What are these exchanges?

Mr. DORSEY. They are largely governmental documents. Under the treaties between this country and foreign countries we are the agents for the transmission of the parliamentary documents and the other documents of the United States Government to foreign governments and for sending gifts or exchanges from scientific institutions throughout this country to similar institutions in other countries.

Mr. WOOD. The documents you send out cost us nothing.

Mr. DORSEY. That is true. They have to be gifts; that is, the exchanges have to be gifts. We do not handle any commercial matter at all, nor do we handle any sold publications. We have need of the

same amount as the current appropriation to carry on the volume of business which will come in during the next year.

Mr. WOOD. Mr. Newton of Minnesota, Mr. Moore of Virginia, Mr. Johnson of Washington, the three House Members of the Board of Regents, are here, and we will be glad to have them make any statements they desire to make at this time.

**STATEMENTS OF HON. ALBERT JOHNSON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF WASHINGTON; HON. R. WALTON MOORE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF VIRGINIA, AND HON. WALTER H. NEWTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MINNESOTA, MEMBERS OF THE BOARD OF REGENTS OF THE SMITHSONIAN INSTITUTION**

**REDUCTION IN ESTIMATES FOR SMITHSONIAN INSTITUTION**

Mr. NEWTON. Mr. Chairman, the three House members of the Board of Regents of the Smithsonian Institution are here. It probably would expedite the matter if a statement be first made by Mr. Wetmore, and we can supplement what he has to say.

Mr. WOOD. What is it you desire to present to the committee at this time?

Mr. WETMORE. Merely the matter presented by the Secretary of the Institution to the Board of Regents at the annual meeting of the board held last December in reference to the status of the appropriation for the present year.

There were certain estimates presented before the Bureau of the Budget, and the subsequent allocation of funds is less than the amount of the appropriation for the present year. This matter was presented to the Board of Regents.

**ASTROPHYSICAL LABORATORY**

Mr. WOOD. With reference to what items?

Mr. WETMORE. Particularly the item for the astrophysical laboratory, which has been reduced by \$10,180, or from \$31,180, the amount of the appropriation for the current year, to \$21,000, which is the estimate submitted by the Bureau of the Budget for the next fiscal year. There is also the item for printing and binding, which has been reduced by \$15,000.

The current appropriation for the Astrophysical Observatory is \$31,180, and the allocation here shown in the present copy of the estimates is \$21,000. This represents a reduction in this item of \$10,180.

You will recall that in the hearings last year it was stated that in order to keep in operation an observation station at Montezuma, near Calama, Chile, it was necessary to increase the allotment made to the astrophysical laboratory by \$10,000. This amount has been eliminated again this year by the Bureau of the Budget.

In order to handle this matter, with the reduction made here in the salary limitation from \$26,840 to \$18,000, there were two courses open to Doctor Abbott, the director of the Astrophysical Observatory. He could arrange the work of the Astrophysical Observatory on an eight months' basis and then close it up completely, or else he

could eliminate his own salary and the salary of his principal assistant. He was not able, under this salary limitation of \$18,000 to eliminate the station in Chile alone, as the salary roll at the station in Chile is \$4,620 only. The limitation on the salary roll for the current year is \$26,140. So he decided to cut out his own salary and that of his principal assistant, in the hope that the work of the observatory could continue as before.

Mr. WOOD. Was there any representation made to the Bureau of the Budget with reference to the necessity of this observatory in Chile?

Mr. WETMORE. The matter was explained to the Bureau of the Budget.

Mr. WOOD. Evidently they were not much impressed with it?

Mr. WETMORE. Apparently not.

Mr. WOOD. I understand we made that appropriation last year, because we were informed that somebody who had been making a donation of \$10,000 for the maintenance of this observatory had quit making that allowance, and that we would either have to make an appropriation for it, or else it would have to be abandoned.

Mr. WETMORE. The work was carried on for a number of years under the auspices of Mr. Roebling, who gave us, in all, the sum of \$90,000.

Mr. WOOD. How long will it be necessary to continue that observatory?

Mr. WETMORE. We hope it will be continued for several years.

Mr. WOOD. Is there anybody here who could tell us anything about it?

Mr. WETMORE. Yes, sir. I will ask Mr. Aldrich, who is Doctor Abbott's assistant, to explain the work of the observatory.

Mr. NEWTON. Mr. Chairman, the House members of the Board of Regents are appearing here this afternoon on behalf of that particular item and also in connection with the reduction in the item for printing and binding of \$15,000, and then in connection with the item for the construction of a gallery.

You will recall that we appeared in connection with similar matters a year ago, and I think also two years ago. Doctor Walcott, very unfortunately, is sick, so he can not be here, and for that reason Mr. Wetmore, the assistant secretary, represents him.

Mr. Moore, Mr. Johnson, and myself, who are the House members of the Board of Regents, are here. We dislike very much to again have to appear before the committee and ask you not to reduce the appropriation below the amount which was appropriated last year. We ask you that the estimates of the Smithsonian Institution be restored to the amount which they had for the current year. Otherwise, they will be very seriously handicapped. That condition is all set forth in the letter which Mr. Wetmore has referred to, and which was sent to us as members of the Board of Regents. This letter sets forth the situation in detail. It says:

Referring to my statement to the board at the December meeting regarding the estimates of appropriations carried in the Budget for 1927, the most serious reductions and omissions are as follows:

Astrophysical Observatory: Current appropriation reduced from \$31,180 to \$21,000—loss \$10,180. Current salary limitation reduced from \$26,840 to \$18,000—decrease, \$8,840.



An increase in the estimate for the current year's appropriation of \$10,000 to carry on the South American station, hitherto supported by Mr. Roebbling, was submitted to and not allowed by the Budget Bureau. This increase was, however, made by Congress for the present fiscal year, 1926, bringing the appropriation up to \$31,180. An estimate for the same figure was submitted for next year, but has been reduced by the Bureau of the Budget to \$21,000, and the salary limitation cut from \$26,840 to \$18,000.

In order to meet this cut, Doctor Abbot has cut out, in the estimate now before Congress, any provision for his own salary, \$5,200, and that of his principal assistant, \$3,800. Unless this item is restored to the current year's appropriation of \$31,180, and the salary limitation increased from \$18,000 to \$26,840, this very important and far-reaching scientific investigation to which Congress has given its approval will be strangled.

Mr. WOOD. Does Doctor Abbot have any duties in connection with anything except the observatory?

Mr. WETMORE. Doctor Abbot in addition to his duties as assistant secretary of the Smithsonian Institution has charge of this observatory, the international exchanges, and the library.

Mr. WOOD. Does he get any salary other than the amount paid out of this item?

Mr. WETMORE. No, sir.

Mr. WOOD. What is going to become of Doctor Abbot?

Mr. WETMORE. He will drop out of the Institution altogether unless some other provision may be made for him.

Mr. WOOD. He will not have any employment in the institution?

Mr. WETMORE. Unless some means can be found, through private funds to pay his salary.

#### PRINTING AND BINDING

Mr. NEWTON. The next item referred to in this letter is that for printing and binding.

Current appropriation reduced from \$90,000 to \$75,000—loss \$15,000.

The current appropriation of \$90,000 is insufficient to cover the present needs of the institution, and results in long delays in the publication of important work by its staff, of great value and interest to the public. For example, the Museum was unable to print for over a year after completion of the manuscript, the bulletin on the Flora of Utah and Nevada, notwithstanding that this was greatly needed for investigations by other branches of the Government service. The constant delay in publication is also a great discouragement to the members of the staff.

The chairman and members of the committee will recall that a year ago when we appeared before you there had been a delay in printing some of the annual reports and other documents that the Government gets out, and you restored that amount.

Mr. WOOD. Part of that amount which was restored was for the publication of a volume of the historical society, but they did not allocate the money with which to print that.

Mr. DORSEY. We allocated the usual amount. They customarily had an appropriation of \$7,000 for the printing and binding of historical reports. When our gross estimate was reduced by the Bureau of the Budget we let them suffer in proportion along with the rest of us, and their \$7,000 was reduced to \$5,000. The committee was good enough to restore the appropriation to \$90,000, and the historical society got the \$7,000 the same as they had always had. In the present estimate the amount has been reduced to \$75,000, and their item has been reduced along with the other items to \$5,000 again. But if this item is restored to the original amount, they will get their share.

Mr. WOOD. You mean if it is restored from \$75,000 to \$90,000?

Mr. DORSEY. Yes; General Lord said he thought that was perfectly fair, that they should suffer along with the rest of us.

Mr. WOOD. Can they get out their publications for \$5,000?

Mr. DORSEY. I do not know about that. I think they need the \$7,000. Their publications are very much sought after.

#### INCREASE IN SALARIES

Mr. NEWTON. This letter goes on to say:

Increase in salaries one grade on account of efficiency ratings.

Estimates were submitted in both the preliminary and supplemental estimates to enable the institution to promote one grade in their respective classes employees who were entitled to such promotions under the law on account of efficiency ratings. The total amounts to \$23,893. This figure covers all the branches under the institution except the National Zoological Park, which is carried in another bill.

#### SALARY LIMITATION

The salary limitation on the several appropriations as carried in the Budget is fixed at sums which barely cover existing personnel and make it impossible to add a single employee to any roll. On some appropriations where only a few employees are carried, it is impossible to add temporary help to cover any emergency or to take the place of regular employees on leave.

#### CONSTRUCTION OF GALLERY

For the construction of a gallery over the west end of the main hall of the Smithsonian Building for the plant collection, \$12,500.

An estimate for this item also was submitted in the preliminary and supplemental estimates, but not allowed. The plant collection already contains over 1,200,000 specimens, and, notwithstanding the constant distribution of duplicates, the hall is so overcrowded with cases that additional space is absolutely essential. This item has been submitted in preliminary estimates for several years, but has failed to receive approval, each year adding to the congestion until it has now reached a point where relief is imperative.

#### ADDITIONAL EMPLOYEES, FREER GALLERY OF ART

For additional employees for the care and maintenance of the Freer Gallery of Art, \$8,353.

Under the terms of the original gift of Mr. Freer the cost of operation and maintenance of the building, which was erected and equipped at the expense of the donor before presentation to the Institution, was to be paid by the Government. Of the above estimate \$7,353 is for nine full-time and one one-fourth time additional employees necessary for the proper maintenance of the building and the Freer collection, and \$1,000 for repairs.

There are a lot of very valuable art collections, some of them quite small, which are, nevertheless, quite valuable, and for which those in charge have to take the responsibility.

It is not felt that there has been ample provision made for guarding them and caring for them. It is my understanding that they have felt so keenly about it that provision has been made for extra employees out of the emergency fund, and there is very grave question about their right to do that.

Mr. WOOD. Where do they get that emergency fund?

Mr. NEWTON. Out of a donation. There is a grave legal question about the right to use this trust fund for that purpose, but it has been considered so important that it has been used on the ground of it being an emergency.

Mr. MOORE. They have strained the construction of the will in order to call that an emergency provision. The will is very definite in saying that the donation can only be called upon in this regard for emergency purposes.

I would like to interrupt Mr. Newton, Mr. Chairman, just to say this: That building, which was given by Mr. Freer, cost \$1,300,000, and the collections that are kept there are estimated to be worth an amount that can hardly be calculated. You can say this, that they cost Mr. Freer himself between four and six million dollars—nobody knows exactly how much. That indicates the value of the things that are housed in that building.

NECESSITY FOR ITEMS PRESENTED TO BUDGET BUREAU

Mr. WOOD. Who presented this matter to the Bureau of the Budget?

Mr. DORSEY. It was presented by Doctor Abbot and Doctor Wetmore, with practically the same gentlemen who are here this afternoon.

Mr. WOOD. Were these members of the Board of Regents there?

Mr. DORSEY. The regents were not there; no, sir.

Mr. WOOD. What reason did the Bureau of the Budget assign for not allowing at least the same amount which was allowed last year for the protection of these things?

Mr. WETMORE. The situation with regard to the Freer Gallery is this: It was deemed necessary to employ extra guards to watch these treasures, which was done as an emergency measure under a certain clause in Mr. Freer's will. There was an understanding on the part of Mr. Freer that he built this building in which to install objects of art, and then turned it over to the Government for maintenance and guarding. But if for any reason there should arise an emergency, under a certain clause in his will the income from the fund could be utilized to meet such an emergency. Such an emergency has been in existence for three years in that sufficient guards were not provided at Government expense, so that it has been necessary to provide them at an expense paid from the income of the Freer fund. Those in charge of the Freer Gallery contend now that there has been opportunity for proper presentation of this matter, and that Congress should make the necessary appropriation.

Mr. WOOD. You say the reason or necessity for the preservation of these things was presented to the Bureau of the Budget. What reason did the Bureau of the Budget assign for not making this allowance?

Mr. DORSEY. This item was carried in the preliminary estimates, and the Bureau of the Budget notified us later that we could estimate in the regular estimate for a maximum amount. It was not possible to include this item in the maximum amount we were allowed to estimate for because it was being carried by the emergency fund, and other things were right down to the bone, and it was necessary to care for them. We did not have money to care for the things that we could possibly get along without.

Mr. WOOD. Did you ask them to consider a supplemental estimate?

Mr. DORSEY. We put all this in a supplemental estimate.

Mr. WASON. Did you explain to the Bureau of the Budget how this was being carried?

Mr. DORSEY. Yes; an explanation was made in regard to all these items.

Mr. WASON. The same as you are making here now?

Mr. DORSEY. Yes; practically the same.

Mr. NEWTON. I rather fancy this is the situation. The Bureau of the Budget is rather anxious to keep its totals down. They realize that this Congress has restored estimates heretofore on behalf of the Smithsonian Institution and that they probably will do that again. I think that is probably the reason.

Mr. WOOD. It is not fair for the Bureau of the Budget to do that; it is not treating this committee or Congress fairly. Here is the situation in which it places the committee: This committee is trying to uphold the Budget, and that used to be the old practice, before we had the Budget. These gentlemen would come before us with overwhelming estimates, expecting, and sometimes saying that they had made the estimates larger than necessary, expecting them to be cut down. Here is just the reverse of it.

Here is the Bureau of the Budget, whose business it is to advise us as to what they think these different activities can get along with, and they make these recommendations and expect us to increase them. I do not like that.

Mr. JOHNSON. I had occasion to appear before the Director of the Budget yesterday, and that very matter was discussed in connection with a proposition which is before another subcommittee. The Director of the Budget said, in effect, that they were advisory, and that the relief lies with the Committee on Appropriations and with Congress itself, and that any idea that those in the employ of the Government were denied the right to appear either before the Committee on Appropriations or to appeal to Congress itself was all wrong.

I thought then that we were getting into the very situation that the chairman indicates now, where appeals are made even to Members of Congress or to Congress itself. In the meantime these organizations that are not in a position to press their cases very hard are the ones who suffer the slaughter.

Mr. WOOD. I suppose it would be the function of the Bureau of the Budget to make inquiry, and, of course, they may be mistaken, and Congress has a right to do as it pleases. They can take or not take the advice of the Bureau of the Budget, but if the Bureau of the Budget is to give advice to Congress, Congress ought to follow its advice as nearly as possible. That is the reason why I was asking about that matter particularly.

We made these extra appropriations last year thinking that possibly the Bureau of the Budget had not been properly advised with reference to the necessity. So we made these additional appropriations. They knew when this matter was presented this year that we made these extra appropriations last year for the very purposes you are now presenting, and it looks to me that if they were trying to take care of these institutions—I am not saying they were not—but if they were trying to take care of them they have given a figure which they think would do that.

Mr. MOORE. Mr. Newton has stated the matter by reading the letter of Doctor Walcott.

I can only add, in connection with this item for taking care of the Freer Gallery and collection there that the curator in charge is Mr. Lodge, of Massachusetts, a son of the late Senator Lodge, a very able and very judicious man. He considers this amount asked for as absolutely necessary in order to make sure of protecting those valuables against loss. I suppose he was before the Bureau of the Budget.

Mr. DORSEY. He was to appear, but he was taken ill the day before the hearing was held at the Bureau of the Budget.

Mr. WOOD. What is the protection you are speaking about?

Mr. DORSEY. This is for watchmen and caretakers.

Mr. WETMORE. Then there is included also in that an allowance for repairs to the building. The building has been turned over to the Government for maintenance, and it is necessary for us to keep it in proper repair.

Mr. WOOD. Has the Government accepted this institution?

Mr. WETMORE. Yes, sir.

#### INCREASE IN RATING OF EMPLOYEES

Mr. JOHNSON. There is another little item I would like to refer to. All these matters have been discussed, not only by the House regents, but by the entire Board of Regents, including the Chief Justice of the United States. There is a reference in one of the paragraphs to an increase of the employees by one rating, under the classification act. They are entitled to that. There is not sufficient money to advance them one notch each.

Mr. WOOD. Are they not taken care of under the reclassification act?

Mr. JOHNSON. I think not.

Mr. WETMORE. The reclassification provided a certain set increase in the pay roll, but the law also states that after reclassification went into effect on July 1, 1924, with efficiency in the accomplishment of work provision would be made for advances in salary at certain set rates in the lower grades, amounting in some cases to \$60 a year, and in the higher grades amounting to \$100 or \$200 a year.

Some of the other governmental institutions, with larger pay rolls, have been able to care for that because they had more flexibility in their appropriations. In our case the pay roll and limitation on the salaries are practically synonymous. We are not now able to give any increases whatsoever.

Most of our employees are low-paid employees, who are receiving now the minimum of the different groups.

Mr. WOOD. You have a lump-sum appropriation for your employees, do you not?

Mr. WETMORE. Yes, sir.

Mr. WOOD. If you get rid of an employee or two that would make it possible to take care of this out of the amount you have, would it not?

Mr. WETMORE. Our difficulty there is that our staff is now barely sufficient to maintain the various branches under the institution. We have no leeway of that kind.

The National Museum needs more employees than it has. The situation there is this: In some of the various departments the cura-

tors are getting old, and we should be able to put young men under them to be trained to take the place of these older men as time goes on.

There are a number of important groups of animals where there is no one now in charge.

Mr. MOORE. I would like you to give the committee some idea of the compensation now being received by the employees. Have you any statement about that there?

Mr. WETMORE. We have a number of guards who guard these valuable collections who receive only \$1,020 a year. We demand of those employees honesty, integrity, and attention to duty for that amount of money. These men guard collections that are valued at about \$110,000,000. A great many of them are honest and faithful, and at that rate of pay we have a certain body of men who stay with us, and another body of floaters who come and go. We find it very difficult to keep the guard service full.

Then some of the minor assistants and aids receive from \$1,500 to \$2,100 a year. Many of those are highly trained people. Then we have assistant curators who receive from \$2,400 to \$3,000, and the curators, of which there are 16, receive from \$3,000 to \$3,800.

Mr. WOOD. What qualifications does a curator have to have?

Mr. WETMORE. At the present time I do not care to take any man as curator who does not have a college degree, or the equivalent to a college degree, and who is not recognized as an expert in his particular branch of science.

Mr. WOOD. You have half a dozen different pay rolls down there. Did you ever think about the possibility of consolidating all of them? Would not that give you some leeway with reference to this business that you have been talking about?

Mr. WETMORE. No, sir. The pay rolls may be carried as separate items, but they are administered practically as a whole. I mean by this that the services are all fully utilized. There is no leeway at all.

#### VALUE OF COLLECTIONS

Mr. SUMMERS. What does that \$110,000,000 valuation cover?

Mr. WETMORE. That is an estimate made of the value of our collections.

Mr. SUMMERS. You mean everything, including the Smithsonian and the National Gallery.

Mr. WETMORE. Everything stored in the National Museum and its different branches, but not the Freer Gallery.

Recently we had presented to us from the mint in Philadelphia a collection of coins worth a million dollars. We have a considerable part of them on exhibition. We have to keep a man there to guard that collection constantly, or else somebody would get away with something.

Mr. WOOD. Do you ever miss anything there?

Mr. WETMORE. No, sir; we have been very fortunate in that respect. We have a gem collection that is a wonderful thing. It came to us as a gift, and there is a provision with the gift to provide for purchase of additional specimens.

At the present time in the gem collection, as a deposit, I have a crystal ball that belongs to a firm in New York which is valued at

\$150,000. That is simply loaned as an exhibit in the institution. It is one of the most marvelous things of its kind in the world.

Mr. WOOD. What is it?

Mr. WETMORE. It is a ball of crystal  $12\frac{3}{4}$  inches in diameter weighing 107 pounds.

Mr. SANDLIN. Where did it come from?

Mr. WETMORE. It came from China. It is said to be the largest of its kind in the world.

#### SUNDAY OPENING

Mr. SUMMERS. Did we not make an increased appropriation last year so that the guards might have one day of rest in the week, and so that the gallery might be kept open on Sunday?

Mr. WETMORE. An increase of \$1,500 was allowed to permit the opening of the Arts and Industries Building on Sunday. The Natural History Building and the Freer Building were kept open on Sundays previously from 1.30 to 4.30 o'clock in the afternoon, but we were not able to keep men in the other building on Sunday. With this extra sum we employed 15 men, paying them so much per day for that Sunday service. That allows a certain number of men on service during the week to have Sunday off. We had hoped that they would have two or three Sundays out of the month free in that way. As a matter of fact, with the salary we pay, \$85 a month, it is very difficult to keep the guard roll full, and there is such a large turnover that it is difficult to give the men who stay permanently more than one day off a month for rest. We do the best we can.

Mr. SUMMERS. So this year the guards are only having one Sunday off a month?

Mr. WETMORE. From one to two Sundays a month has been the average so far. We make constant attempts to keep this service filled and we hope to increase that allowance from now on.

Mr. SUMMERS. I would like to know, Mr. Chairman, what amount would be necessary in order that the men might have one day's rest each week.

Mr. WETMORE. I think we could do more toward holding the services of our men if we were able to pay more money. In other words, we would be able to keep the roll full and there would be more opportunity to allow the men freedom.

#### INTERNATIONAL EXCHANGES

##### PERSONAL SERVICES IN DISTRICT OF COLUMBIA

Mr. WOOD. In your first item on page 103 there is a provision that not more than \$23,000 of the appropriation may be expended for personal services in the District of Columbia. If that provision is adopted you would have to dispense with the services of Doctor Abbot?

Mr. WETMORE. No, sir; the provision affecting Doctor Abbot is on page 109. The item that you mention is in connection with international exchanges.

Mr. WOOD. Then this amount I referred to is all right, is it?

Mr. DORSEY. It had been reduced \$500, and on the basis of the business we have carried on for the past six months, (we have handled

33,000 pounds more during the past six months than during the corresponding period last year, when we had \$46,260) we will need this full amount.

Mr. WOOD. All you would have to do to come within the reduction would be to send out a smaller number of Congressional Records, would it not?

Mr. DORSEY. Yes, sir. You spoke about that last year. I want to read you a letter we got from a library in connection with that very thing. You said nobody would want to read the Congressional Record. This is from the librarian of the State Library of Wurtemberg, Stuttgart, Germany:

The management of the National Library expresses to you its most sincere thanks for so graciously complying with its wishes regarding the gaps in its series of United States governmental documents and its other requests. Consignments arriving in the last few months enabled us to fill at least a great part of the existing gaps, as we found to our delight. Among the volumes still lacking we miss most badly the Congressional Record, volume 54, part 3, Sixty-fourth Congress, second session. We would be very thankful if this volume could yet be procured.

We have received a great many letters expressing appreciation for the valuable publications sent through the exchange service. Here is another one which was received from the library committee of the Notgemeinschaft in Berlin, Germany:

Recently a consignment of 51 cases, containing fragments of American periodicals transmitted through the America Institute, Berlin, reached the library committee of the Notgemeinschaft. The Notgemeinschaft, which has previously received similar consignments from the Library of Congress and Professor Boas, is very glad to express to you its sincere thanks. We shall utilize the periodicals in completing gaps which still exist in German libraries, for which purpose the scientific and technical periodicals sent to us are of great value. The other more popular publications were also of interest here, as hardly any German library appears to have received them heretofore. It is a pleasure to me to thank you sincerely for the trouble which the matter has given you. At the same time I would be obliged to you if you would let me know what other American establishments had anything to do with this collection, so that we may gratefully acknowledge its receipt to them also.

Mr. JOHNSON. I really feel that the suggestions made in Secretary Walcott's letter which was read are modest and represent the very minimum which should be asked for. As Mr. Moore said, we have been rather under the impression that the Budget thought the matter would be taken care of here. An examination which was made showed that these amounts were for necessary things.

Mr. WETMORE. May I make one further remark in connection with this item for international exchanges.

#### TRAVELING EXPENSES

There has been a ruling of the Comptroller General made recently regarding traveling expenses, and we have been told that beginning July 1, 1926, it will be necessary to indicate in the wording of the act that travel is contemplated under this item.

In connection with that I desire to ask that in the item for international exchanges, after the words "books and periodicals," in line 5, the words "and for traveling expenses" be inserted, so that it will read "purchase of necessary books and periodicals, and for traveling expenses."

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Mr. DORSEY. That is a very recent decision of the comptroller, and these expenditures for travel have been paid out of our appropriations for years. There is no new expenditure contemplated. But we have been informed that hereafter this expense can not be paid out of any appropriation which does not provide for travel in specific terms. So in all of our items we are asking to have that wording included.

#### PREPARATION OF MANUSCRIPTS

There is another decision of the comptroller, which is a recent one, in reference to the preparation of manuscripts, and the Bureau of the Budget has included the phrase "preparation of manuscripts" in the appropriation act for the Bureau of American Ethnology. The Comptroller General has made a ruling that no manuscripts can be paid for as such; that if a manuscript is purchased from a man, with any agreement in advance, it is personal services, and must be paid for as personal services. Unless this provision is put in we can not pay for such manuscripts as we can have no additional personal services, in view of the salary limitation. It is necessary to have this wording put in, so we can pay for the purchase and preparation of manuscripts.

For example, Doctor Fewkes frequently would want a report made on some ruin in some area of the country, and he would send a man there who would make an investigation, and we would buy that manuscript at the proper rate.

Mr. WOOD. Can you pay for that, in addition to paying him for his time?

Mr. DORSEY. We would pay him whatever the manuscript was worth.

Mr. WOOD. Is that all the pay that man would get?

Mr. DORSEY. Yes, sir.

Mr. WOOD. He would not be paid in addition for his time?

Mr. DORSEY. Not at all. We can not handle these matters unless we have this provision in the law, in view of this recent decision of the Comptroller General.

Mr. WOOD. Where would that occur?

Mr. DORSEY. The Budget Bureau has allowed us to put that language in the item for the Bureau of American Ethnology where it is required.

Mr. WOOD. It is already inserted on page 105?

Mr. DORSEY. Yes, sir; the Bureau of the Budget inserted it there.

Mr. WETMORE. There is only one other point where we wish that language included, and that is under the language for preservation of collections in the appropriations for the National Museum.

#### AMERICAN ETHNOLOGY

Mr. WOOD. You have an item for continuing ethnological researches among the American Indians and the natives of Hawaii, for which the estimate for the next fiscal year is \$57,160. That is the same as the appropriation for the current year?

Doctor FEWKES. I had an appropriation of \$57,160 last year, and out of that there was transferred to the retirement fund, \$992, leaving us an amount of \$56,168.

Mr. WOOD. What do you mean by "transferred to the retirement fund?"

Doctor FEWKES. I mean deductions made for the retirement fund.

Mr. WOOD. Is the contribution to the retirement fund paid by the Smithsonian Institution, in addition to the deduction from the salaries?

Mr. WETMORE. No; that is the deduction of 2½ per cent from the salaries.

Mr. WOOD. How does it happen that you make an additional contribution?

Mr. WETMORE. We are called upon to turn over the amount of money allotted out of salaries. It is not an additional contribution.

Mr. WOOD. Then it is a mere matter of bookkeeping; you pay it instead of the man paying it?

Mr. DORSEY. Yes; we turn it into the Treasury.

#### INVESTIGATIONS INTO HISTORY OF INDIANS

Doctor FEWKES. I am asking for the same amount next year, and I will say that perhaps there is no scientific subject which attracts more popular attention than that of the history of our country, especially the prehistory. In almost every newspaper you see something about some discovery which has been made in archeology in this country or in the Old World, and most of those announced discoveries have to be investigated in order to get at the truth in the matter. In other words, the need of books such as we publish on Indians is greater to-day along that line than it ever has been in order to make known to the world and to our people what is true and what is false in these discoveries.

The two functions of our bureau are to increase our knowledge of the Indians and to make it known to the people by publication and for that purpose we issue reports. During the last year we issued two reports and one bulletin, an octavo publication.

In addition to that we have done our share along newspaper work as a sort of "Mr. Foster." It is said if you want to know anything you should "ask Mr. Foster." The amount of work we have had to do to answer all the questions, which have come to us has greatly increased within the last five years. It has increased certainly five or six times what it used to. Those questions are not questions you can answer offhand. They are questions concerning which you require a great deal of research.

Those functions we have tried to carry on with this money. And we have done the best we could, and we are asking for the same amount for next year.

Mr. WOOD. If you did not do as much investigating you would not have so many questions to answer, would you?

Doctor FEWKES. The more investigations, the more we can instill into the minds of the American people the fact that we have a bureau which is looking after the truth about Indians.

Mr. WOOD. Have you discovered yet whether Bryan or Darrow was right on this evolution business?

Doctor FEWKES. No. Fortunately, in cultural studies we do not take that matter up. Our researches are limited mostly to problems in connection with the culture of the Indians. Of course, the culture

of the Indians is rapidly passing. We are on the eve, really, of the destruction of all that was interesting, scientifically, outside of psychology, in the American Indian.

Now we are turning most of this money into the investigation of the past history and the character of the aborigines when America was discovered.

In order to accomplish that, I have several expeditions in the field. We do not spend any great amount of money in connection with these expeditions, as compared with the amount spent by other parties.

Mr. WOOD. How old is the oldest ruin that your branch of investigation has discovered?

Doctor FEWKES. In America?

Mr. WOOD. Yes.

Doctor FEWKES. There are many men with many opinions in regard to that. There is a great difference of opinion. There are some who date them back before the Christian era. There is one ruin that dates back as far as 300 B. C.

Mr. WOOD. Do you think those Indians that built these ruins you are discovering were the forebears of the present Indians?

Doctor FEWKES. Yes, sir. Many tribes have become extinct, but such tribes as the Cliff Dwellers and the Mound Builders, I believe personally, were the direct ancestors of the Indians who were living here when the white race came to this country, but there are others which have disappeared. There were a great many small tribes that have become extinct, but there are many of the larger tribes which are represented by the existing Indians.

The objects that they use and the things which they cherish in their rites, particularly in the case of the Pueblo Indians, have come right down from ancestral Cliff Dwellers. The people who have studied this subject especially have made them out as identical. The modern Pueblo Indians like the Zunis and the Hopi are practically the lineal descendants of the Cliff Dwellers.

But how long a time it took man in this country, after he came here to develop certain of the native edible fruits or roots like the potato and Indian corn, from the roots and grains we do not know. It took a long time.

For instance, take our maize, or our Indian corn. It was artificially developed from very small grass by the old Mexicans. It was not done in a year or in a century. It took many centuries to transform a grass found in Mexico into the corn or maize which was the great food of the American Indian. So it was with the potato, with the cassava, yam, and with a great many other plants. The ancestors of the Indians in our day not only drove out the ferocious animals, but they also developed a characteristic food which constitutes a great part of our present diet.

Mr. WOOD. Have you ever discovered anything to indicate what the potato was developed from?

Doctor FEWKES. Yes; we have another small potato in a comparatively wild state that for some reason or other was not suitable to be developed. They live side by side. Up in the mountains down there in South America they still have the wild potato, and all our potatoes would be wild if it was not for man keeping them up.

Then, there is another thing. If you should investigate the number of food plants which we owe to the Indians, that is, strictly American food plants, you would be surprised at the number. You could get up a good-sized pamphlet about that without having anything else in it except something about food grasses and fruits which grew originally in America and were introduced into Europe. And the same thing is true with some fibers. When we consider smoking tobacco we go back to the Indian.

A friend of mine who has no desire to get into the newspapers, but who was really doing some fine work, has estimated that it was 3,000 years before the dawn of the Christian era when they first began to develop these food plants. I think that gives us a very modest antiquity. But we say that man was here a long time before that, and we are looking out for the evidence, and that is a part of the work that I have been doing.

It is said that one of these old men in the olden times lived in Florida. Some people say he did and some people say he did not. I do not know which is right. I am trying to find out, so I have had a man down there near Melbourne in middle Florida looking up some things, and he has found evidence that man was living in America in late Pleistocene. I am trying to find out what the evidence is one way or the other.

In California there is evidence that man may have inhabited America in the last great epoch of geological history. The paleontologists seem to be grouped on one side, and they say he did, but the anthropologists are on the other side and say he did not.

Mr. WOOD. How are you going to determine who is right?

Doctor FEWKES. You know what Josh Billings said, "Of two evils; choose neither."

Would you like to know something about our concrete work?

#### ACTIVITIES OF BUREAU IN INDIAN RESEARCH WORK

Mr. WOOD. Yes; especially what you have done during the last year.

Doctor FEWKES. There has been so much that I do not know where to begin. I am working on two large problems in connection with the migration of the American Indian. That is, we not only have to find out how old the Indian is, but likewise how he got here, whether he came by way of Australia or by way of Bering Strait. Two articles on the former route have been recently published, one stating that he came by way of Patagonia, and another claiming that he had negro blood.

Mr. WOOD. Some contend that he was a Chinaman.

Doctor FEWKES. A good many contend that. The majority claim he came here by way of Bering Strait. However he came here, we have the other problem to deal with. Did he come singly or in hordes, clans, or in some other way? That leads us into the question of migration.

There is one thing which I think is very evident, that however he came here he lived for a certain length of time under an environment which made him an American Indian and differentiated him from the other races.

Now, I had in mind some researches bearing on that, and on which I hope to send a man into the field this summer. The west coast was evidently inhabited by more different kinds of Indians than any other part of America. There were more tribes of Indians in California originally, as well as in Oregon, Washington, and Alaska, than in all the rest of the United States put together. We brought out last year a very valuable publication. It is what we call a handbook of California Indians. It is a book of 900 to 1,000 pages, more or less. Professor Kroeber, who is an expert, has given us the whole story of the California Indians. I would like, if I had the money, to take up some other parts of the country for consideration. Now, the edition of Mr. Kroeber's book—his handbook on the Indians of California—is almost exhausted. To show you how it is appreciated, I will say that it is used in schools every day, and we get applications for it from all over the country.

Now, I would like to follow that work on the Indians of California with some other work, as for instance, on the Indians of Florida, or any other part of the country, including Alaska. We have a man for Alaska work. We have there the remnants of most important and interesting tribes who made those totem poles. Instead of having a door plate, a householder had a pole in front of his house on which he carved ravens and other totems. The Government has reserved one of those villages situated in the southern part of Alaska, was rapidly going to waste. It had been deserted by the Indians because they went to work in canneries. Some gentleman from California went up there and saw this deserted village. A half generation ago it was inhabited by nearly 1,000 people. It is near the line of travel, and was reserved as a monument. I want the tourists who go up there to see this place, because it has been the custom very often when a man would go in there and could not find a deer to shoot at, to try to shoot at one of the heads on one of these totem poles. They would kindle fires, and three or four totem poles were burned down. What I would like would be to have this village restored so that tourists could get off a little from the beaten route and take a look at these things.

The ignorance of people in regard to their own country is sometimes amazing. Our tourists have traveled extensively over Europe, and we want them to turn and travel in our own country and see some of our own antiquities. If my health is preserved, and I can pay my present doctor's bills, although there is nothing so sure as death and taxes, there is one line of work I would like to pursue further, viz: To determine whether the ancient people who came over from Asia were the first people. That seems to be the most feasible explanation. If you go to Alaska, on a good day you can look across there, and while you can not see the Asiatic shore, you can see an island that is half way between. There is no doubt in my mind but that the first emigrants crossed to America from Asia via Bering Strait. Unfortunately, however, we have not what scientific men must have in order to determine the facts. In other words, we must find the remains of cooking utensils, dishes, broken spears, broken tomahawks, etc., that they left behind. We will start at the lower end of Alaska and work up into that country, but we can not put more than two or three thousand dollars annually into that work.

Now, that is one line of work I have in mind, and another line is that I want to find out a way to get together the facts in regard to the civilization which we had down in the Gulf States before the coming of the white people. Now, the Creeks, or what we call the Muskogees, were people who inhabited Alabama, Louisiana, Texas, Georgia, and Florida, and theirs was one of the finest cultures there was in ancient times in America. They left behind them evidence that they excelled in ceramics, in the making of shellwork, etc., and now and then we find a piece of beaten copper very similar to those found in Mexico, or on the plateau of Mexico. Therefore, we are searching for trails in order to determine whether ancestors of the Creek people went down into Mexico, or whether the Mexican Indians came up this way. Last year we did some very interesting work in Florida, and I wrote a pamphlet on that. I went down to St. Petersburg and opened a mound on Weedens Island.

We have had a man working in Mississippi and Alabama. Incidentally, there is a very strong feeling in those States, which of course is encouraging, that they do not have their share of attention from the Government in this work. We would like to do something in those States to help them.

Then there is another problem, which is an old one, and that is the problem of tracing down the cliff dwellers of our Southwest. You would be surprised to learn how many problems there are in the southwestern part of the United States that need to be investigated. For instance, there are investigations that should be made at Flagstaff, Ariz., and from Flagstaff south, away down the Colorado River. Down at Casa Grande there are plenty of fine opportunities for research by historical people. In the archeological investigations of the Southwest there has been practically little done.

Mr. WOOD. What is the composition of those ruins? Are they of adobe construction?

Doctor FEWKES. They are of stone.

Mr. WOOD. Were these mound builders?

Doctor FEWKES. No, sir; nobody knows who these builders were. Among the objects found there was a clay ladle, on the handle of which the mother had made a carving for the baby, so that if the baby cried for water, she gave it to him and at the same time held up this little object. That was an important historic object. That was sent to me by Mr. Clarke, at Flagstaff, and I was so pleased that I vowed that if my life was spared I would go down there and look it up. These (indicating) are some new photographs illustrating some aspects of our work. Right at the corner there (indicating) was a graveyard, and many objects have been unearthed there. Among other things there was found the skeleton of a woman who had earrings made of turquoise mosaic.

Mr. WOOD. How long do you suppose that body had been buried there?

Doctor FEWKES. Those are not among the oldest ruins, but they were inhabited before the advent of the whites.

At present I am carrying on some work at Santa Barbara in California. One of our staff who was been working there is a particularly good man in investigating disappearing languages. There are a lot of old men out there, and here [indicating] is a picture of one of them. He is getting from them stories that have come down from the old

times, and we are trying to get them all recorded. This [indicating] shows the way they built their houses.

Now, you would be surprised to learn of the requests that are made of the bureau. For instance, the Cherokee Indians were moved from North Carolina to Oklahoma, and there was a roll or list of those Indians. It seemed that quite a number of them subscribed for the purchase of land in their old home and remained while the others moved off to Oklahoma. The roll or list of those Indians was lost, and as there is no other historical evidence of the families one of them has written us to find out what Cherokees there were down there, and what their names were. We have sent this information because one of our men, the late Mr. Mooney, years ago collected from old men a list of the Cherokee men who composed the Cherokee Nation at that time. We can send a photostatic copy of the list, and also a copy of the agreement that they entered into. We were also able to furnish those Indians other information.

Mr. Wood. Did they have some way of writing the names of their men?

Doctor FEWKES. Yes, sir. One of the most remarkable achievements of the North American Indian was the invention of what they called the Cherokee alphabet. A Cherokee Indian, Sequoya, without knowing how to read and without help of any kind, devised what is called the Cherokee alphabet, and by means of that alphabet the Cherokee people recorded a great many things. They were particularly expert in that, and we have printed in this list names written out in those letters. The Cherokees were among the most advanced of our Indians, and at one time, I am told by historians, when the thirteen States were united to form the United States, some foremost man at that time desired to have a Cherokee State. He wanted to have 13 original white men's States and one State for Indians. That State would include a part of Georgia and North Carolina. However, that plan was objected to by certain of the signers of the Declaration, and it was never carried out. The Cherokees are a very intelligent people, and they were related to the Creeks, who gave us so much trouble during the Creek War. You might call them the frontier people of the Creek Indians.

I personally made field studies at Montgomery, Ala., and looked up some matters at Muscle Shoals. When the Wilson Dam was constructed it flooded, or will flood, all the country above it for a considerable distance along the Tennessee River. Those flood waters will cover a number of Indian mounds which were built above Muscle Shoals. For some reason or other the name Muscle Shoals is incorrectly spelled. The name is really "m-u-s-s-e-l" or "Mussel Shoals," and it derives its name from mounds which are composed of mussel shells. The soft parts of the mussels were used for food and the shells were thrown away. While superintending some investigations there we dug up one of those shell mounds and found in it some interesting Indian relics. For instance, we found a copper gorget made of beaten copper, about 6 or 8 inches in diameter. We found many other objects indicating the culture of the people who were the first to inhabit the Muscle Shoals region. On this trip I visited Indian sites near Montgomery and went on to the battle field of Shiloh, where there is the remnant of a village right where the battle field was. I was particularly interested in going there, by the way, because one

of the best Indian pipes that we have ever found in the Middle West was found right in one of the mounds where the battle was fought. Major Powell, my predecessor, lost an arm at Shiloh, and I combined scientific with patriotic feelings. Then I went on south and saw the antiques that they have in Montgomery, and the site of Fort Du Chesne, where the Creeks surrendered to "Old Hickory."

There is another line of research which illustrates our work and that is in relation to the League of Nations. This is the question of protection to be obtained by union, and which was taken up long before white people came here. Six of the nations combined and formed the league of the Iroquois, under Hiawatha. They were drawn together in order to protect themselves from their enemies, because they were being killed right and left. Therefore, they formed a confederation, of which Hiawatha, whose character is extolled by Longfellow in the poem, "Hiawatha," was the chief. Hiawatha was really in his early days a cannibal, but he saw the light and abandoned cannibalism, and became the head of this confederation, which was formed by those nations for mutual protection, or for the same reason that some people now want to join a league of nations.

Mr. WASON. Are they descendants of Hiawatha?

Doctor FEWKES. I do not know. Mr. Hewitt, of my staff, has studied very carefully that whole story and has written a very interesting pamphlet on the League of the Iroquois. He gives a great deal of information about the early attempts of the Indians to protect themselves from each other. Now, as time went on, they have lost, through the influence of white men, a good deal of their rituals. They had a very elaborate ceremonial in the condolence but they lost it, and now it is desired in the interest of historic things to reconstruct it.

The Smithsonian Bureau of Ethnology preserved an account of that ritual, and so we have been able to give them the information as to what they should do to restore what they lost. Some years ago I wrote a little pamphlet on the dances of the Pueblo Indians, in which one of the Indians made pictures of every god that they knew of. I gave him six sheets of paper with a box of colors, and he sent to his home and made pictures of six gods. He brought them to me and I gave him six more sheets of paper with colors. In that way, I succeeded in getting pictures of 280 different gods. I worked along with this until somebody circulated the report that it was a work of sorcery that I was doing, that I was a wizard, and so I had to close my collection. I brought the pictures home and published them in colors. I understand from some visitors to the Pueblo Indians that some of them have bought the book and use it for fashion plates when they want to dress up in a certain style.

I think that covers the work that I have done.

Mr. SANDLIN. I am very much interested in the results of your visit to Louisiana. I understand that you were at Shreveport last year.

Doctor FEWKES. I had a man down there, but we were somewhat disappointed. We wrote to him and carried on quite a correspondence.

Mr. SANDLIN. Did you see the mounds at Shreveport?

Doctor FEWKES. The man who went out there for me did.



Mr. SANDLIN. Are those regular mounds?

Doctor FEWKES. They are just the same as the mounds in Arkansas.

Mr. SANDLIN. They have been in sight of my home for years, but a good many people did not know what was in the mounds.

Doctor FEWKES. They are good mounds. I sent a man out there who was an old worker on these things. He reported that he did not think it possible with the amount of money I could give to work up this mound. We do not want to simply grub them up, but we want to go at them systematically, so that we can get all that there is in them. Some people down in Mississippi own some mounds in the section from which the Choctaws came. They promised us that we could dig there, and I had a man to go down there to dig, but the woman who owned them backed out, and said that they had been there so many years that she did not want to have the dead disturbed.

#### CHANGES IN LANGUAGE

Mr. WOOD. Your description of the work you are doing is very interesting. Now, I notice that you have some new language in this item, as follows: "The preparation of manuscripts, drawings, and illustrations." That is the language that we have been talking about.

Mr. WETMORE. Yes, sir; after the words, "necessary books and periodicals," we want to have inserted the words, "and traveling expenses," in order to cover the decision of the Comptroller.

Mr. WOOD. The limitation on the amount that may be expended for personal services in the District of Columbia is \$45,040.

Mr. WETMORE. Yes, sir; a similar amount is permitted to be expended for that purpose in the current fiscal year.

#### INTERNATIONAL CATALOGUE OF SCIENTIFIC LITERATURE

Mr. WOOD. The next item is for the International Catalogue of Scientific Literature, as follows:

For the cooperation of the United States in the work of the International Catalogue of Scientific Literature, including the preparation of a classified index catalogue of American scientific publications for incorporation in the international catalogue, clerk hire, purchase of necessary books and periodicals, and other necessary incidental expenses, \$7,500, of which amount not to exceed \$7,275 may be expended for personal services in the District of Columbia.

What is that for?

Mr. GUNNELL. We have the same appropriation that we have had every year for the past three years. As we have stated to your committee, and to the Budget Bureau, on account of the necessity of the publication being suspended, we are using every method possible to economize in the work, and each year we turn back certain money into the Treasury. Out of the 1925 appropriation we will turn back into the Treasury \$1,528, and out of the 1924 appropriation we will turn back \$1,141. That money goes back automatically. I have asked each year for the full appropriation, in view of the fact that the publication may be resumed at any time, and as soon as it is resumed we will have to start up the bureau with full force.

Mr. WOOD. I notice that the limitation on the amount that may be expended for personal services in the District of Columbia is reduced from \$7,785 to \$7,275.

Mr. GUNNELL. We can get along with that. However, if the work should start up again, we would have to go back to the original amount.

Mr. WOOD. You want that language in there.

Mr. GUNNELL. Yes sir; and after the words, "books and periodicals," we want the words, "traveling expenses."

#### ASTROPHYSICAL OBSERVATORY

Mr. WOOD. The next item is for the Astrophysical Observatory, as follows:

For maintenance of the Astrophysical Observatory, under the direction of the Smithsonian Institution, including assistants, purchase of necessary books and periodicals, apparatus, making necessary observations in high altitudes, repairs and alterations of buildings, preparation of drawings and illustrations, and miscellaneous expenses, \$21,000, of which amount not to exceed \$18,000 may be expended for personal services in the District of Columbia.

Mr. WETMORE. As indicating the scientific value of this work, the National Geographic Society has made an allocation of \$55,000 for further research, and at the present time Dr. Abbott is somewhere in Beluchistan looking for a site for an observing station to be maintained under that fund.

Mr. WOOD. What is this observatory for?

Mr. WETMORE. The astrophysical observatory carried on the work of observing solar radiation.

Mr. WOOD. Have scientists been able to reach any determination or agreement with reference to sun spots having anything to do with rain, snow, or weather conditions? Some say that the sun influences these weather conditions, and others say the moon attends to it.

Mr. ALDRICH. I think that scientists are agreed that the moon has nothing to do with it. The reason we are delighted to have this third station given us by the Geographic Society is that no one station anywhere in the world is able to get a continuous record of solar variations from day to day. That can not be done even with the best station that we know of in all the world, the one in Chile, where it is cloudless almost continuously the year round. There we can only get observations on about 280 days in the year. We have another station at Table Mountain, Calif. That was the best situation to be found anywhere in all this country for an observing station, but those two stations together do not permit us to have a continuous record from day to day which is one reason why we want to have this third station established. In fact, we would be glad to have more than that. Another reason why it would be of benefit to have more stations is because the research itself is extremely difficult. It is an extremely difficult thing to measure the actual value of the sun's radiation. The reason for that is that we, here on the earth, are buried down at the bottom of a great sea of air. Above us a great quantity of water vapor, dust particles, oxygen, etc., within the air form a great interference to the radiation passing through, so that by the time the radiation reaches us on the earth, it is a very different thing from what it was when it left the sun.

Our problem is to determine what it was when it left the sun, before it was affected by passing through our atmosphere. Our past work has shown the solar radiation to be variable; that the quantity of

radiation fluctuates irregularly from day to day, and that sufficiently reliable results can not be determined by observations from only one station. In spite of all the improvements of instruments and methods that can be devised, based upon 25 years of experience, we can not be sure of results from the observations made at one station within less than one-half of 1 per cent. However, if we have two stations, we are very much more assured of the values, and if we have three, we will have that much more assurance. Therefore, the more stations we can have the more reliable our results, and the greater value will come out of the work. Aside from the fundamental importance scientifically of this record of the changes of solar radiation, another factor is the proposition that there must inevitably be some relation between the variation in sun radiation and our weather conditions. If we stop to think, we realize that all life on the earth is directly dependent upon the heat and light received from the sun; and it is only reasonable to suppose that small fluctuations in the radiation are bound to have some effect upon climate or climatic conditions, however remote and complicated it may be. This question has been gone into by Mr. Clayton, a prominent meteorologist, for the past two years or more, under the financial aid of Mr. Roebling.

His researches have shown, I think, without any question, that there is a definite correlation between the meteorological elements on the earth and solar variations that were found from our observations. He has also endeavored to forecast the conditions as they will be in the future from the values as he received them. His researches, while not, perhaps, as promising as they might be, certainly do show a certain amount of prevision. There is no question about that, I think, with any one who has made a complete study of Mr. Clayton's work.

Mr. WOOD. What is the practical use of this observatory?

Mr. ALDRICH. I think, that its principal use lies in the study of the relationship between solar radiation and weather conditions upon the earth.

Mr. WOOD. In the determination of weather conditions?

Mr. ALDRICH. In determining what the weather in the future will be, or the weather on future days, weeks or months.

Mr. WETMORE. The attempt to be made is to determine what the weather will be three days or five days hence, or a week or a month hence, with reasonable accuracy.

Mr. WOOD. Has anybody made any determinations of that sort from any observation of the spots on the sun?

Mr. ALDRICH. Mr. Clayton has also made that a part of this work. There is a definite correlation between the changes in the sun spots and the radiation of the sun. Generally speaking, the solar radiation is greater when more spots are observed on the sun than when fewer spots are observed.

Mr. WOOD. What are those spots supposed to be?

Mr. ALDRICH. They are enormous eruptions of gases. The sun itself is a great ball of tremendously hot gas, and at times the hotter gases in the interior burst out. Why the gases burst out in those places is not known, but they do it in a regular cycle of about 11 years. For three or four years we have a large number of sun spots bursting out here and there, and then the number gradually dies down, and we have a quiescent period of a few years.

Mr. WOOD. Suppose the sun should go on a strike, or cease business, what would happen?

Mr. ALDRICH. We would cease business within a few hours after the sun did.

Mr. WOOD. Why?

Mr. ALDRICH. With no heat or light being received, the earth would cool off so rapidly that all the coal we have would not be able to sustain life.

Mr. WOOD. Do you gentlemen know anything about the theory that is being advanced that the sun is diminishing potentially as well as in size?

Mr. ALDRICH. That theory was advanced some years ago. The source of the energy of the sun is conceived to be the contraction of the sun. As you contract a great body like that, heat is produced. In cooling off, there is contraction and the greater the contraction, the more heat is produced. That is [supposed to be] the source of the sun's continuous ability to give off a tremendous quantity of heat.

Mr. WOOD. What is supposed to be the size of the sun?

Mr. ALDRICH. Well, the sun is about 1,000,000 times larger in volume than the earth.

Mr. WOOD. When you speak of the earth, you mean our globe.

Mr. ALDRICH. Our earth here, which is a great sphere about 8,000 miles in diameter. The sun is about 1,000,000 times that in volume, but, being 93,000,000 miles away, it does not look big.

Mr. WOOD. Have any prognostications of weather conditions been made upon the basis of your observations?

Mr. ALDRICH. Only privately by Mr. Clayton. His work has been published.

Mr. WOOD. It is not serving any practical purposes in aiding the agricultural interests of the country, is it?

Mr. ALDRICH. The Argentine Government has been using our values in a practical way for five or six years. They use the values as telegraphed to them daily from the Calama Station in Chile to make weekly forecasts, and they are selling these forecasts to the farmers and other agricultural interests, I understand.

Mr. WOOD. How does it pan out?

Mr. ALDRICH. So far as I know, it is panning out very well indeed. They have no difficulty in selling them.

Mr. WOOD. I mean so far as having any value is concerned, in affording a forecast of weather conditions.

Mr. ALDRICH. So far as I know—in fact, we do know, that their weekly forecasts based upon this data have been better than their previous ones were.

Mr. WOOD. Why do we not make use of them in this country?

Mr. ALDRICH. I do not know.

Mr. WETMORE. I believe our weather conditions are more complicated. The things that influence weather in the Eastern States are far more complex than those in Argentina.

I was down there for nearly a year at one time and have first-hand information of conditions there. The South American Continent is relatively narrow at the south. There is the sea at one side and a mountain range in the interior, from which it arises that the complexities that affect the weather are much simpler than here, where we have broad, flat land area of great extent. I have been informed

that the farmers and cattlemen on the large ranches pay the Government a small fee for prognostications, based on solar constants telegraphed from our observatory in Chile, and that they find it definitely to their advantage to know what the weather will be a week in advance. The service has been sufficiently accurate to make them willing to pay for it. They pay a fee that covers the small expense of the telegraphic charge.

Mr. WOOD. Those prognostications concerning weather conditions in Chile would not be of any service to us here.

Mr. WETMORE. The causes that affect the weather here seem to be much more complex. Down there the conditions are simpler, and they are able to apply the factor of solar radiation more readily to explain coming weather conditions.

Mr. WOOD. What advantage do you scientific gentlemen think may ultimately come in a practical way from those observations.

Mr. WETMORE. It is hoped that we may definitely prophesy weather conditions a month hence or a week hence.

Mr. WOOD. If you can not do it now, why do you hope that you will be able to do it in the future.

Mr. ALDRICH. Sufficient research work has not been done in correlating our values with the fluctuations in temperature, barometric pressure, humidity, etc., that occur in this country. That requires a great deal of statistical study, and a great deal of research into the problem is required to know how best to proceed. The little work that Mr. Clayton has done is infinitesimal as compared with what really needs to be done before an entirely satisfactory method can be devised.

Mr. WOOD. Where will you establish this other observatory that will be promoted by the Geographical Society?

Mr. WETMORE. Doctor Abbott has gone abroad to select a site for it. He has investigated areas in northern Africa, on the edge of the Sahara, and has gone into western Asia to investigate some desert areas there. What he is after is to find a dry region where there is sufficient altitude to afford clear, clean air and where there will be no trouble from clouds. Clouds interfere seriously with the observations. If he can find a region where no rain occurs, he will get the maximum value from the observations of daily solar radiation. The advantage of a third station in that section of the world is this: There may be clouds over Table Mountain in California, and possibly over Calama, Chile, but with an observing station in the eastern hemisphere on that same day, or during the same 24 hours, there will be a good show for clear weather. In that way, a continuous series of observations by utilizing the data from the three stations may be made.

Mr. WOOD. You would not get them in the same time in the day, because when it is day time at this Table Mountain station in California, it is not the same time over there.

Mr. ALDRICH. That is a further advantage. This sun radiation is continually changing, and by having stations placed around the world, we obtain to some extent the changes from hour to hour.

Mr. WOOD. In order to have complete observations, how many of these stations should you have?

Mr. ALDRICH. That is a difficult thing to say. The more the better, I should say.

Mr. WETMORE. The National Geographic Society have gone into this matter carefully, and they have put up a fund for the establishment and maintenance of a third station.

Mr. WOOD. You do not think they will do like Mr. Roebling, and establish one and dump it on our hands?

Mr. WETMORE. I hope not.

Mr. ALDRICH. I understand that an arrangement has been made with the Weather Bureau to furnish to them daily our solar radiation values. They are anxious to add the values to the daily weather map that is furnished to the whole country. Thus our work is made available to those who wish to study the question. Also, I think, our values have been asked for by the Norwegian Weather Service.

Mr. DORSEY. One of the telegraph companies also has requested it for the use of their clients.

Mr. WOOD. Is there any possibility of putting this thing into a condition where it will be of any real practical value in furnishing weather forecasts, in such a way as to bring in any revenue eventually to the Government?

Mr. WETMORE. It will mean increased revenue to private individuals who utilize it. You can readily see, for instance, that a farmer's valuable crops may be endangered by sudden rain or storms, and if he can have definite warning sufficiently in advance, he might, perhaps, save a part of his yield, whereas if storm came upon him unawares, his produce might be ruined. It might not have any definite revenue value to the Government, but it would yield valuable information to men engaged in farming. It would assist in many ways.

Mr. DORSEY. Some time last summer there was a publication issued—it was not a Smithsonian publication—from which it would appear that we were making long range weather forecasts, and we had a number of requests for it. I remember that one dairyman in California wanted to know about the cold weather that this paper had prophesied. This was not published by the Smithsonian Institution at all, but its name was linked up with it, and we have had a great many requests for it.

Mr. WOOD. Were those prognostications made as a result of your observations out there?

Mr. DORSEY. No, sir; I do not know how they were made. That was a private forecaster, and we did not know about his work, but he said that he was using data from our observatories. How it was used, we do not know, but it became linked up with the Smithsonian.

Mr. WOOD. That fellow was a fraud, was he not?

Mr. DORSEY. I would not say he was a fraud, but his methods were not known.

Mr. WOOD. Nobody could use it without your consent, or he would not have any way of getting it, would he?

Mr. DORSEY. He could get certain data from the observatory publications.

Mr. SUMMERS. My recollection is that Doctor Abbott said that he hoped to make seasonal predictions or forecasts.

Mr. DORSEY. Yes, sir.

Mr. SUMMERS. That is what he was anticipating.

Mr. DORSEY. Yes, sir.

Mr. WOOD. I was hoping that by this time some seasonal forecasting would be going on, so that we would have some excuse for continuing the fund. Suppose we make this appropriation, will you not come back next year with the same uncertainty that you have now?

Mr. ALDRICH. It seems to me that the future is looking more promising than at any time in the past. Of course, the value of these things will depend upon the accuracy of our solar values. This next year we will furnish more accurate values than we have in the past. With three stations doing daily work the results should be much more accurate. I feel that another year's observations will show without any question whether or not it is worth while continuing the matter further.

Mr. WETMORE. There is this further aspect to be considered, that these definite, scientific investigations yield new information, and any new fact, no matter how small, is eventually worth while. Eventually it will find some application to our life. Many years ago, Professor Henry, former secretary of the Smithsonian, was experimenting with a bar of iron through which he passed an electrical current. In that way he made the electromagnet. For a time it was a mere plaything, but it has become of tremendous value since. I believe that Professor Henry also experimented in the breaking of the contact of an electrical current so as to throw sparks between two bars of iron. I came up here this afternoon in an automobile in which was applied that same principle in that it was driven by spark plugs which ignite the gas in the ignition chambers. That was simply a scientific fact that he was developing, but it has been put to tremendous economic use since then.

Mr. WOOD. Little things sometimes bring about big results.

Mr. WETMORE. In considering the allotment under this appropriation with the limited salary roll, it was not sufficient, to eliminate the observation station in Chile. The salary limitation has been reduced by \$8,840, while the salary roll at Calama, Chile, is only \$4,680. In dealing with the matter Doctor Abbott had two alternatives. He could spend all of the appropriation of \$21,000 on work of the observatory for eight months and then wind it up, or he could eliminate enough in the salary roll to keep within this \$18,000 salary limitation, and let the work continue. He chose the latter alternative; and in order to let the work proceed he has cut out his own salary and that of his principal assistant.

Mr. WOOD. In order to do the work that you want to do, or if you want to continue the work and pay Doctor Abbott and his assistant, you would have to have \$26,840 available for personal services in the District of Columbia; and in order to do that you would have to have an additional appropriation of \$10,000—is that it?

Mr. WETMORE. Yes, sir. With that increase the total of the appropriation would be \$31,180, with an increase in the salary limitation to \$26,840, as it stands in the appropriation at present.

There is one other matter we want to bring to your attention, and that is the insertion of the words, "travel expenses," after the words "drawings and illustrations." That is in line 6.

## ASSISTANT SECRETARY

Mr. WOOD. The next item is, "For an additional assistant secretary of the Smithsonian Institution, \$6,000."

Mr. WETMORE. That carries my own salary.

Mr. WOOD. That is the same amount.

Mr. WETMORE. Yes, sir; there is no change there.

## NATIONAL MUSEUM

## CASES, FURNITURE, FIXTURES, ETC., AND PERSONAL SERVICES

Mr. WOOD. The next item is for the National Museum, as follows:

For cases, furniture, fixtures, and appliances required for the exhibition and safe-keeping of collections, including necessary employees, \$23,730, of which amount not to exceed \$11,940 may be expended for personal services in the District of Columbia.

Mr. WETMORE. The first item of the appropriation, covering cases, furniture, fixtures, etc., shows an increase, the appropriation for 1926 being \$21,800 and the estimate for 1927 being \$23,730, or an increase of \$1,930. The amount of the increase is distributed as follows: In grade 4, custodial service, there is an increase indicated of \$60 for the promotion of one mechanic. The Bureau of the Budget last year approved and the appropriation by Congress allowed an increase of \$1,000 in the limitation of salaries for the promotion of workmen on this force. These men are occupied in making cases for the storage of specimens, and exhibition cases for the National Museum. Their work is of a very high grade. They do as excellent work as any group of men in the city. They are paid far less than they would receive in outside service, and, in fact, receive less than similar men in some other departments of the Government. With this limitation of last year we were not able to give one of these mechanics the increase in salary which was merited by the service he renders. This is covered here by an allowance of \$60 for a promotion of \$5 per month for this mechanic. There is no further change on the salary roll.

The additional items, amounting to \$1,870, involve first an increase of \$370 under supplies and materials. That is shown under the head of lumber and wood products, and paints and painters' materials.

## ACCESSION OF SPECIMENS

I may explain that the accession of specimens that come to us one year in the usual routine are given permanent storage in the collections on the year following. After they are received it is necessary that they be classified to make them ready to be placed in the permanent collections. Last year we received as accessions 363,490 separate items. The number was so great that we are not able to care for them fully under the appropriation that we had available for this year, so that the Budget has allowed an increase of \$370 under this item.

In addition, there is an increase of \$1,500 under equipment. That is for the purchase of glass jars and vials, trays, and boxes of paste-



board, etc., and other items necessary to care for the smaller specimens. Our accessions during the past year were extremely valuable.

We had given to us, for example, under the will of Col. Thomas. L. Casey, a collection of beetles valued at over \$200,000. Colonel Casey contemplated that study of his favorite science should continue for many years after his death, and in his will made provision that his collection should come to the National Museum with the idea that it would be carefully guarded there and be preserved for the study of posterity. This collection contains about 16,000 species, and among those 16,000 species, there are 6,000 types. The type of a specimen, I might explain, is the specimen that serves as a basis for the original description. It is extremely valuable on that account. If there is any doubt as to what this creature may be, reference is made to the type to check up on any point that is in question. The acquisition of those types is extremely valuable to our insect collection.

Mr. WOOD. What is the object to be gained in the study of those beetles?

Mr. WETMORE. Insects of this group may turn out to have some definite relation to some crop that is grown in this country, and it is necessary that adequate measures of protection be taken against the outbreaks of some of these insects. You may recall that in New Jersey a number of years ago a beetle turned up and began eating corn, other crops, and all sorts of things. No one knew what it was.

Specimens were brought to the laboratories of the National Museum where they were identified as the Japanese beetle; with the name known the Bureau of Entomology experts engaged in this work had some grounds to go on, and they could search for enemies of this thing. Until that time they did not know where it came from. These things work out very strangely sometimes.

As I recall, last year a gentleman from Java sent in a species of moth which he said did considerable injury to coconuts. It was identified at the National Museum. At the same time a visiting British entomologist came here from the Fiji Islands and told us of a strange moth which was the enemy of coconuts, and he was trying to find out from what part of the world it came. He got the information from the Museum, and steps were taken to find some enemy of the pest in order to try to control its damage.

Mr. SUMMERS. The Museum is the finger print bureau?

Mr. WETMORE. We are a finger print bureau, and we tell our consultants where to go to search for the creatures needed. We are their scientific representatives in all these things.

Another very valuable collection came to us recently as a gift in a collection of moths and butterflies which was gathered by a Frenchman by the name of Dognin. Through one of our collaborators a fund of \$50,000 was raised from friends of the institution, and that collection was purchased and presented to the Museum.

Mr. WOOD. Where does that come from?

Mr. WETMORE. That comes from France. It contains insects from all over the world. It is extremely important to us.

In addition to that, we have received a great many plants, particularly from the National Geographic Society. The National Geographic Society sent Mr. J. F. Rock, through southern Burma

and southern China looking especially for the chalmoogra tree, to establish that tree in the Hawaiian Islands and elsewhere.

Mr. WOOD. What kind of a tree is that?

Mr. WETMORE. It yields an oil, a product which is used in the treatment of leprosy. Mr. Rock went originally for the Department of Agriculture, and he was financed later by the National Geographic Society, and made some explorations in the interior; he came home with 80,000 plants. Among other specimens he brought a collection of over 1,600 specimens of birds containing many that we had never seen before. Among them were some beautiful pheasants; I remember one pheasant in particular that had a skin that folded down on the chest. It was highly colored, and when it was extended was yellow and blue in color.

Mr. WOOD. It was a sort of chest protector.

Mr. WETMORE. Like a yellow necktie. All those things come to us as gifts, and we are under the necessity of housing them.

Mr. WOOD. Is that where this item of \$12,000 is needed?

Mr. WETMORE. For furniture, fixtures, etc. That is cared for under this item.

Mr. WOOD. I understood you to say you had submitted to the Budget an item of \$12,000 for a balcony.

Mr. WETMORE. No, sir; that is another thing.

Mr. WOOD. What are you doing with these things you have been getting?

Mr. WETMORE. We are trying to build cases in which to put them. That is what this increase is for.

Mr. WOOD. You do not need any change in the language here.

Mr. WETMORE. No, sir; not in this item.

#### HEATING, LIGHTING, ELECTRICAL, TELEGRAPHIC, AND TELEPHONIC SERVICE

Mr. WOOD. For heating, lighting, electrical, telegraphic, and telephonic service you are asking for \$78,140 for the fiscal year 1927, of which amount not to exceed \$42,680 may be expended for personal services in the District of Columbia. Your appropriation for the current year was \$77,560, so you are asking for a slight increase.

Mr. WETMORE. Under the item for heating and lighting we have \$77,560 for the current year. The estimate as indicated here is \$78,140. That is an increase of \$580. There is also a change in the salary limitation.

The change in personnel in this item consists of the addition of one assistant telephone operator, or under operator.

The telephone switchboard in the National Museum supplies service to all of the offices under direction of the Smithsonian. We began originally years ago with 19 lines, but with growth in the institution this service of necessity has increased so that the switchboard now has 147 lines. We have had one woman operating that switchboard. The work has grown so tremendously that it is entirely too much for one person. We handle incoming and inside calls ranging from 500 to 1,000 a day, a figure that takes no account of the outgoing calls. The work is entirely too heavy for one person.

There is included here an estimate for an assistant telephone operator to relieve the operator we have and give her a certain amount of rest; provision is made that when the assistant operator

is not engaged in that service she shall be employed in clerical work in the office of the Superintendent of Labor.

Mr. WOOD. How many hours a day do they work?

Mr. WETMORE. Seven and a half hours.

Mr. WOOD. Do you only have telephone service for seven and a half hours a day there?

Mr. WETMORE. During seven and a half hours each day, from 9 o'clock until 4.30 o'clock there is a continuous use of the switchboard. The rest of the time one of the guards on duty remains near the switchboard, where he can answer any calls in case of emergency. There are very few calls before 9 o'clock in the morning and after 5 o'clock in the evening.

There is necessary here also the addition of a clause in the wording, after the words "and telephonic service." It is necessary to add the words "and necessary traveling expenses." That is to provide for a very minor travel item. We find it advisable every summer to have the boiler system examined by an official inspector who comes over from Baltimore, or from Wilmington, Del. Last year the expense was \$8.68.

Mr. WOOD. You have been paying that expense out of this fund heretofore.

Mr. WETMORE. It has been carried here; yes, sir.

#### PRESERVATION, EXHIBITION AND INCREASE OF COLLECTIONS

Mr. WOOD. For continuing preservation, exhibition, and increase of collections from the surveying and exploring expeditions of the Government and from other sources, you are asking for \$450,000 for 1927, as compared with an appropriation of \$441,082 in the current year. There is an increase of about \$9,000.

Mr. WETMORE. This appropriation is the main one for the National Museum. It is the one which carries the large pay roll of the scientific staff. The increase shown is \$8,918.

There are two additions to be noted in the salary roll. The first is a senior clerk stenographer for my own office. When my salary was established by congressional appropriation there was no provision made for a clerk for me. I find it absolutely necessary in the conduct of business to have a competent person to take dictation, to do typing for me, and to perform the other necessary routine clerical work usual in an administrative office.

Mr. WOOD. How much are you paying for that?

Mr. WETMORE. \$1,860.

Mr. WOOD. That does not make up the difference between the amount for last year and this year?

Mr. WETMORE. No, sir. There are two other additions, two junior typists for service as library assistants at a salary of \$1,140 each. That will amount to \$2,280.

Our situation in the library is this: For a number of years we have been getting behind. We have a great many books given to us. We have had bequests of valuable scientific books. We have been able to incorporate part of them in the regular library, and part of them have simply been stored.

Last year the librarian made a census and found there were 30,000 volumes not catalogued, and, therefore, not available. There were

68,000 file cards not put in the catalogues where they could be consulted.

The force we have at present has not been sufficient for the adequate checking up of the books on the shelves. Books get out of place, so that very often a book is not in its place when it is looked for. To keep the library properly arranged it is necessary to check over the shelves at occasional intervals.

Furthermore, we receive in exchange for our publications large numbers of periodicals, and it is necessary to make a very close check on them to make sure that some are not missing. If we miss them within a few months we can get copies to replace them, but if we let them go for three or four years we can not get copies to replace those lacking. We lost a good many things that were issued abroad during the war, and now we have to get them if we can through secondhand book companies, in some way.

To carry on the necessary work in the library there is an allotment provided for here of two additional persons at a salary of \$95 a month each. That service is essential to the conduct of the business. A library in a scientific institution is a highly essential thing. The men engaged in our work use the books constantly and need access to them frequently without delay. We handle books literally by the thousands. We get them not only from our own library, but from the Library of Congress, from the Department of Agriculture library, and from other libraries in the city.

Mr. WOOD. Do you need any changes in this language?

Mr. WETMORE. After the words "necessary employees" we desire to add the words "travel and" and after the amount "\$5,500" we desire to add the words "for preparation of manuscripts." That has been done by the Bureau of the Budget in the case of Doctor Fewkes's appropriation, but it was overlooked in this item. There is also a further addition in allotment here for supplies and materials.

Mr. WOOD. Under this item?

Mr. WETMORE. Yes; you will find that set out in the details on page 117.

Mr. WOOD. That is provided for in the item on page 115 that we have just been talking about?

Mr. WETMORE. Yes, sir; under supplies and materials. The total addition for supplies and materials is \$1,278.

For stationery there is allotted \$2,078, instead of \$1,990, as was allotted this year. You will note that in 1925 it was necessary to expend \$2,511.53 for this purpose. That is a standing expense that we can not avoid. It covers stationery for the entire National Museum, and is absolutely essential for our maintenance.

For scientific supplies there is allotted \$2,000, instead of \$1,000, which was allotted last year. You will note that there again in 1925 the expenditure was \$2,849.86. This expenditure covers chemicals, such as carbon disulphide, naphthalene, and similar things that we use for deterrents against insects. We have many laboratories where it is necessary to put carbon disulphide in the storage cases twice each year, in the spring and in the fall, to kill any insects which may get in there.

This amount also covers an item for alcohol used as a preservative for the marine reptile and bird specimens, and fishes. We use 30 or 40 barrels of alcohol annually for that purpose.

Mr. WOOD. Denatured alcohol?

Mr. WETMORE. No, sir; we use the grain alcohol; it is guarded very carefully.

Mr. WOOD. Would not denatured alcohol be useful for that purpose?

Mr. WETMORE. We can not use it as the denaturing agents often injure specimens. It is not well to use wood alcohol. That is dangerous. I have myself done a great deal of dissecting, and I object very seriously to using wood alcohol because of its effect on the eyes. There is always the danger of paralysis of the optic nerve, especially when used in a small room.

Mr. WOOD. Is that what plays havoc when it is taken on the inside?

Mr. WETMORE. Yes, sir; you get the same effect. If you are working in a close small room the strong fumes of the wood alcohol are absorbed through the mucous membranes.

Mr. SUMMERS. In the case of men mixing it in varnish in a vat it has resulted in blindness in a very short time.

Mr. WETMORE. We use denatured alcohol in the paint shop in the preparation of varnish and shellac, but for a preservative we use the straight grain alcohol.

This item also includes laboratory supplies, pins for mounting insects, glass slides, dishes, brushes, cotton wadding, and all materials of that kind.

There is also an addition here of \$500 in travel expenses. The amount allowed is \$1,000. This is a very small amount when the number of men on the scientific staff is considered, and when we also consider the great range of subjects that is covered. This is the only fund that will permit travel for the purpose of securing desirable specimens. We absolutely require allowance for necessary travel of that kind.

Under special and miscellaneous services there is allotted \$3,000, which is an increase of \$1,000 over the allotment of 1926. This is to cover such expenditures as the mounting of plants, cleaning mammal skulls and skeletons, making blue prints and drawings, and packing collections; it also includes miscellaneous repairs of all kinds to scientific apparatus and the preparation of manuscripts. The expenditure for 1925 amounted to \$5,234.71. We are only able to allot here \$3,000.

Under the item for educational equipment there is an addition of \$1,000. This allotment is to permit the purchase of necessary specimens. We have vast collections in many groups, but there are in these collections a great many gaps. Occasionally we have opportunity to buy desirable specimens. That opportunity, when it comes, must be taken as it may be years before we may get another chance, or such opportunity may never occur again.

This is especially true in the case of birds, mammals, and plants as well as of other things. Many of these things are becoming extinct or are being driven out of extensive parts of their ranges, and if we do not get them now we will never be able to get them.

In 1923 I was in the Pacific on scientific exploration work, through the small islands beyond Honolulu. There is a small island there known as Laysan which has been noted as a refuge for birds for many years. There were guano works on the island, and the foreman in charge about 20 years ago brought some rabbits there from Honolulu for his children to play with. He also had a half-formed plan of allowing these rabbits to propagate, with the idea that he could can their meat when they became abundant and put it on the market. After a few years he went away. In the meanwhile the rabbits had spread until they were well established in a wild state in the shrubbery and other vegetation. The island is a small place, only about a mile and three-quarters long and about a mile wide. Years ago it was a pleasant place, covered with green grass and shrubbery, that formed a good deal of shade. Rabbits increased until they became a horde that devoured every living green thing.

I landed on Laysan in April, 1923, and when I walked up the sloping sand to the summit of a little knoll, the island had the appearance of a section of the Sahara Desert. The only green thing in sight were two coconut trees. Everything else had been eaten by the rabbits.

Mr. WOOD. Were the rabbits still there?

Mr. WETMORE. They had eaten practically all the vegetation available and then the majority had starved and died. Those that remained were living on the shore of a lagoon, where a species of pig-weed was growing, on which the rabbits fed. The rabbits were digging up the roots, and in the course of two or three more years they would probably have starved out completely. My party was there for about 36 days and during the course of that work we exterminated the rabbits. We killed all we could find, and during the last 10 days we did not see any living animals.

Mr. SANDLIN. How many were there?

Mr. WETMORE. There were between 500 and 1,000 left at the time of my arrival. On this island there were species of plants which had been exterminated, and there were two species of birds that died when they had no further shelter. Those were species of birds to be found nowhere else in the world. Fortunately, we have specimens of them. There were other creatures that lived there, of which we know practically nothing including land shells, insects, and things of that kind, but those are all gone. Their extermination came through a casual chance. Such processes go on constantly in various places all over the world.

Down in the Marshall Islands friends of mine have told me that the Japanese are going in and are clearing certain islands completely for purposes of cultivation. They take off all of the native vegetation so all the native insects and other things disappear. There are many things destroyed utterly in that way that are not preserved in museums. Many animals are becoming scarce in other sections. We need funds for the purchase of desirable specimens when we can get them.

#### REPAIRS OF BUILDINGS, ETC.

Mr. WOOD. You have an item for repairs of buildings, shops, and sheds, including all necessary labor and materials, for which you are asking \$12,000 for the next fiscal year. That is the same as the appropriation for the current year?

Mr. WETMORE. This, in general terms, is the appropriation to cover repairs to roofs, skylights, and windows and the various types of floors we have in our buildings, pointing up walls, and repairs to the ceilings in the halls and offices in the five large buildings that are under the institution.

The appropriation for the present year is \$12,000, and the allotment for the next year is the same amount. There is no change there.

#### PURCHASE OF BOOKS, PAMPHLETS, AND PERIODICALS.

Mr. WOOD. For the purchase of books, pamphlets, and periodicals for reference you are asking for \$1,500 for the next fiscal year. That is the same as the appropriation for the current year?

Mr. WETMORE. There is no change in that item.

#### POSTAGE STAMPS AND FOREIGN POSTAL CARDS

Mr. WOOD. For postage stamps and foreign postal cards you are asking for \$450 for 1927. That is the same as the appropriation for the current year. There is no change in that item?

Mr. WETMORE. There is no change in the items for postage stamps and foreign postal cards.

#### NATIONAL GALLERY OF ART

Mr. WOOD. For the administration of the National Gallery of Art by the Smithsonian Institution you are asking for \$20,000 for 1927, as against an appropriation of \$21,028 for the present fiscal year. There is a reduction in that item of \$1,028.

Mr. WETMORE. For this item for the current year there was appropriated \$21,028, and the allotment shown here is \$20,000, making a decrease of \$1,028.

The National Gallery of Art is the art museum of our country. When the Smithsonian Institution was established in 1846 provision was made under it for objects of art, and this National Gallery, although not established permanently for many years subsequent, was an outgrowth of that idea. We have in the National Gallery some very valuable collections of art objects, paintings, sculptures, miniatures, ceramics, and articles of that kind, practically all of which have come by gifts or bequests. We have now between 900 and 1,000 wonderful paintings. The National Gallery as it is housed at the present time, is in the halls of the Natural History Building. There is a certain space there for exhibits, and we are able to keep on exhibition about one-third of the collection in that way.

Doctor Holmes, in charge of the gallery, who is confined at home to-day by a cold, changes the exhibits from month to month in order to give them variety. The things which are not on exhibition are carefully stored or are hung wherever there is wall space throughout the building. Our halls are lined with these paintings, where they are available to students who wish to see them, but not on public exhibition.

One very important function of the National Gallery is the gathering of loan collections for special exhibitions. We have there for the past two months an exhibition of early American art that has been of great importance. It has included a collection of paintings

by the older painters of this country, a collection of silverware made by such old New England silversmiths as Paul Revere, Edwards, Corey, and others, and a collection of American miniatures which is said to be the most wonderful gathering of its kind ever made in this country. This has been assembled by a special committee and put on exhibition there for the benefit of the public.

Mr. WOOD. Who conducts those special exhibits?

Mr. WETMORE. The National Gallery conducts them. They are carried on in cooperation with this special committee.

Mr. WOOD. Where does the material come from?

Mr. WETMORE. It is loaned by friends of the institution. It comes to us merely for the expense of the installation and the expense of transportation.

Mr. WOOD. The exhibit there now belongs to one person?

Mr. WETMORE. No; it was assembled from a large number of sources. We have been over a year bringing that material together. The articles in that exhibit came from all over the eastern part of the United States, from the Mississippi River to the Atlantic coast and from Boston south.

Mr. WOOD. Do you need any change in this language?

Mr. WETMORE. We get these special collections by paying for the transportation of them. The McFadden collection, which we have had for several years, cost us \$900 to get here; the appropriation as it stands is expended for personnel and for objects of that kind. It is unfortunate that there is a reduction in this item.

Mr. WOOD. There is a reduction of \$1,028?

Mr. WETMORE. Yes, sir.

Mr. WOOD. What will happen in consequence of this reduction? Will the result be that you can not put on any more of these exhibits?

Mr. WETMORE. It will curtail the amount available for such exhibits. We will be restricted in that regard.

Mr. SANDLIN. I notice that there is a reduction of \$400 for transportation and a reduction of \$500 for educational equipment.

Mr. WOOD. They do not interfere with the Art Gallery?

Mr. WETMORE. No, sir; they do interfere with the present collection but they do not provide for its growth.

Mr. WOOD. Do you need any change in language?

Mr. WETMORE. Yes, sir; after the words "books of reference and periodicals" and the words "traveling expenses."

I may add that the temporary exhibits we have are the real life of the gallery. We can keep on changing the things we have over and over again, but, so far as these temporary exhibits are concerned, they bring new material here where it may be seen by the public. This should be done.

Mr. WOOD. Does anybody come to see those exhibits? How do they know anything about them?

Mr. WETMORE. We advertise them through the papers. For this special exhibition that I have described, as visitors entered the doors there was a placard announcing that special exhibition.

Mr. DORSEY. An invitation was sent to you gentlemen in Congress to see it.

Mr. SUMMERS. You have a large number of art objects stored, have you not, or objects that you have not room to display.



Mr. WETMORE. Yes, sir; about two-thirds of the entire collection.

Mr. WOOD. Do you mean in the Gallery of Art?

Mr. WETMORE. Yes, sir; in the Gallery of Art. There is not room to show all these objects at one time in the exhibition halls.

Mr. WOOD. Why do you not exhibit them?

Mr. WETMORE. We have not the space.

Mr. WOOD. Then sometime you must have more room for them.

Mr. WETMORE. We hope that time will come.

Mr. WOOD. Is that contemplated in the building program?

Mr. DORSEY. I do not think any definite provision has been made for the National Gallery of Art in any building program yet.

Mr. WETMORE. Space for a building has been allotted by Congress on the Mall, immediately east of the Natural History Building, between Ninth Street and Seventh Street; the building contemplated is of about the same size as the National History Building.

#### FREER COLLECTION

In connection with this item, may I bring up that matter of the Freer collection, which is a unit of the National Gallery of Art, but administered separately?

Mr. WOOD. Is that administered under this item?

Mr. WETMORE. No, sir.

Mr. WOOD. It is not administered under the National Gallery of Art?

Mr. WETMORE. It is a unit of the National Gallery of Art, but is administered as a separate organization by the Smithsonian Institution.

Mr. WOOD. Where does the appropriation come from?

Mr. WETMORE. From the Freer income.

Mr. WOOD. We have never made any appropriation as yet for the Freer Gallery?

Mr. WETMORE. Yes, sir.

Mr. RAVENEL. In the first deficiency appropriation for 1920, just before the completion of this building, it became necessary to have it heated and lighted, and Congress made an appropriation in that first deficiency bill of \$15,510 to provide a certain number of steam fitters, electricians, assistant engineers, laborers, etc., and also to provide the necessary additional coal that we would require to heat it from our general plant. In the following year, after the exhibits had been delivered, in order to carry out the agreement made between the Government and Mr. Freer, as provided for in his deed of gift, which was that the Government should guard and maintain the building, in the sundry civil bill of 1921, there was appropriated \$20,000 for a certain force, a list of which I have, as follows:

In the first deficiency appropriation for 1920 specific appropriation of \$15,510 was provided for heating, lighting, and ventilating the Freer Building, also the necessary force as follows:

1 steamfitter.....	\$1, 080
1 electrician.....	1, 200
1 fireman.....	900
1 assistant engineer, 4 months, at \$1,200.....	400
2 firemen, 4 months, at \$900.....	600
2 laborers, 4 months, at \$660.....	440
Total.....	4, 620

These salaries are exclusive of the bonus allowed by Congress.

## PRESERVATION OF COLLECTIONS

In the sundry civil bill for 1921 Congress provided for the Freer Building 16 employees, as follows:

1 picture hanger (per annum).....	\$1, 200
1 stenographer and typewriter (per annum).....	1, 200
8 watchmen, at \$720 (per annum).....	5, 760
2 laborers, at \$680 (per annum).....	1, 320
1 attendant (per annum).....	480
3 charwomen, at \$240 (per annum).....	720
Total.....	10, 680

In addition to the amount for salaries there was \$1,940 appropriated for the purchase of stationery and supplies of all kinds needed for the upkeep of the building, making a total of \$12,620.

The 16 employees above referred to now receive salaries amounting to \$15,106.80—the increase over \$10,680 due to classification.

Mr. WOOD. That was included in the sundry civil bill?

Mr. RAVENEL. Yes, sir. There was also provided some slight additional funds for furnishing necessary materials, stationery, etc. The force at that time was regarded as sufficient, because the building was in course of installation, but since it has been completed, the curator has, from year to year, asked for additional employees. These items were included in the Museum's estimates for heating, lighting, and preservation of collections. It has never been possible with the appropriations made to provide the full number of people that the curator regards as absolutely essential. His request now is for five additional watchmen, at \$1,020——

Mr. WOOD (interposing). Would they come under this item, if they were allowed?

Mr. RAVENEL. They should be either put under the National Gallery of Art, or added to the appropriation for the preservation of collections for the National Museum. This could be added to that appropriation. We pay the eight men they have now under that item. Those who were provided for under the sundry civil bill were put under the National Museum, and these could be added to the same appropriation, or they could be put under the National Gallery of Art, as it is an independent unit of the National Gallery.

Mr. WOOD. The Freer collection is more of a museum than it is a gallery of art, is it not?

Mr. RAVENEL. No, sir; it is largely oriental art; it is considered legally as a part of the National Gallery of Art.

Mr. WOOD. Where would this item properly belong?

Mr. RAVENEL. Under the gallery of art.

Mr. WOOD. Do you want this under the National Gallery of Art?

Mr. RAVENEL. Yes, sir; it is a unit of the National Gallery of Art.

Mr. WETMORE. I think it would be advisable to have it under the National Gallery of Art.

Mr. WOOD. How much do you need down there?

Mr. RAVENEL. He has asked for——

Mr. WOOD. Who is "he"?

Mr. RAVENEL. The curator, Mr. John E. Lodge. I have here a copy of the statement showing the additional force that he asks with a sum of \$1,000 for repairs to the building.

Mr. WOOD. The total asked for here for salaries is \$7,363, and at least \$1,000 for repairs to the building. That is repairs to what building?

Mr. RAVENEL. To the Freer Building.

Mr. WOOD. What is the matter with it? It is a new building, is it not?

Mr. WETMORE. Any building, of course, needs maintenance. The Freer Building is new, and the expense of maintenance has not been high, but there is a certain amount of painting, repairs to roofs, and other work that must be done to keep it in proper condition.

Mr. WOOD. This \$7,363 will take care of nine and three-twelfths employees.

Mr. RAVENEL. Yes, sir; men and women.

Mr. WOOD. That is one person for three-twelfths of his time.

Mr. RAVENEL. Yes, sir.

#### PRINTING AND BINDING

Mr. WOOD. The next item is for printing and binding, as follows:

For all printing and binding for the Smithsonian Institution, including all of its bureaus, offices, institutions and services located in Washington, D. C., and elsewhere, \$75,000: *Provided*, That the expenditure of this sum shall not be restricted to a pro rata amount in any period of the fiscal year.

Your current appropriation for this purpose is \$90,000.

Mr. WETMORE. The printing item for the entire institution for 1926 is \$90,000, and the estimate for 1927 is \$75,000, or a decrease of \$15,000. This item covers the cost of publication of the annual report of the Board of Regents, the publications of the National Museum, of the Bureau of American Ethnology, of the National Gallery of Art, the National Zoological Park, the Astrophysical Observatory, and of the American Historical Association, as well as miscellaneous printing of all kinds. I may say with regard to our publications that all matters pertaining thereto are handled with the greatest care and that every possible economy is practised in the effort to make our funds go as far as possible.

Our mailing lists are revised constantly to avoid any duplications or any deadwood in them, and in most cases we have restricted the edition of any one paper to a very small surplus above our actual mailing lists. We distribute our works widely among the libraries, and we consider that everything which we can not print in large edition is accessible to the public in the libraries throughout the country. We hold proof corrections down to a minimum, and the distribution of bound copies such as this volume here [indicating], is now practically eliminated. Formerly we bound a considerable number, but outside of the annual report we bind now only about 50 copies of each work. Those copies are intended for use in our own library, and practically everything that is distributed is in paper covers. I have here some recent publications that show what we are doing. Here is a work on the Flora of Utah and Nevada, covering practically the entire Great Basin. This is a work of the greatest value to anyone living or working in that region, and we have been pressed for this publication by the Forest Service, other agencies of the Government, and private individuals. It is used in the experiment stations and it is useful in the colleges and schools in that section.

There is a great demand for it on all sides. We put that out this year. It was necessary to hold this manuscript for nearly a year before sending it to the press because of the condition of available funds. We have already shown you a copy of a work on the California Indians as an example of the publications of the Bureau of American Ethnology. The annual report of the Smithsonian Institution is well known to all of you. Here I have examples of the publications of the National Museum. This particular one is a more or less popular work on some of our game birds, by Mr. A. C. Bent, and is entitled "American Wild Fowl." Mr. Burt is an honorary member of our staff. He assembles this useful and valuable information without recompense, that it may be published by the National Museum. In addition to its bulletins the major publication of the National Museum is its proceedings. The proceedings contain miscellaneous papers on every branch of science that are highly technical and are intended for specialists. They cover every imaginable thing in natural science. This series is one of the most valuable scientific publication series in the world; is a series that no worker in science can be without.

Mr. WOOD. Is this the annual report of the Smithsonian Institution?

Mr. WETMORE. No, sir; this publication is the Proceedings of the National Museum, consisting of a series of short papers, all of them highly scientific and technical, that carry the recent findings of our scientific men all over the world. Some of the small papers published there are extremely useful. You are probably aware of the publication of the Smithsonian Institution on the foraminifera. These are minute organisms that, while existing to-day, are found as fossils in rock. The prospector for oil can take his diamond drill borings, examine them, and find these fossil foraminifera in them, and from the species of fossils found in any section can get the history and location of the strata that he is going through at the time. From his knowledge of those strata he can ascertain the probabilities of approaching a strata that may contain oil. These foraminifera are found only in the more recent rocks, or in the higher strata. There is a tremendous range of rock below, known as the paleozoic strata, in which these creatures are not known to occur. The paleozoic rocks were changed or metamorphosed by heat and pressure so that if these foraminifera were there originally they have disappeared.

It has been recently found that in the older rocks there are in structures known as conodonts that look like teeth, and are supposed to be the teeth of fishes. We have a report now in the press on these conodont structures, as shown by a set of the page proofs that I have here. They are minute objects, almost microscopic. It has been found that they can be correlated with the structure of the older rock strata, as the foraminifera are in the more recent geological series. In other words, these conodont structures will afford a clue in the position of borings in the older rock, where prospectors have had no such criteria in the past. I do not want to say definitely that it will, but it may perhaps afford a clue to deposits of petroleum that are at present unknown.

The volume of scientific work at the present time is tremendous. We have new facts and new discoveries constantly as the outcome or outgrowth of researches in our national collections. It is important

that these be put before the public so they can be used. The more readily they can be put out the more widespread they become and the more useful they are. Most of these discoveries and studies are abstruse, and seem to have no particular popular interest, but it is these abstruse things that are applied by other agencies of the Government and other groups of men to economic work of various kinds. Therefore, they become extremely useful. To me the saddest thing in the world is to see some man who has worked hard and gained tremendous knowledge in some one branch of science, or in some other branch of knowledge, die without putting it on paper so that it may be useful to his fellow men. It seems almost a waste of effort.

Our situation with regard to publications is this: This year we have \$90,000. It is now the first of February, and the entire appropriation is practically exhausted. We have now for the National Museum enough work completed or at the Government Printing Office to cover almost the entire appropriation. As I recall my balance on the 1st of the month was \$3,900. A great part of that will be absorbed by overrunning the estimates of cost on work that we have already sent up, and the rest will be used for minor publication expenses.

Mr. WOOD. When that is absorbed, what will you have left unprinted?

Mr. WETMORE. We have manuscripts coming in constantly now to be printed next year, and by the 1st of July I shall have enough to hand to use a considerable part of a sum of money equal to that of this year.

Mr. WOOD. Suppose you do not get this \$15,000; what will happen?

Mr. WETMORE. We will have to hold back those things and wait until funds are available for printing.

Mr. WOOD. What advantage would there be in deferring the printing of them if it is the intention to print them?

Mr. WETMORE. None at all.

Mr. WOOD. Would there be any disadvantage in deferring it?

Mr. WETMORE. There would be a retarding of the distribution of knowledge to scientists all over the world.

Mr. WOOD. Will you only publish these things that you have been publishing throughout the last several years, or will you bring out some new publications?

Mr. WETMORE. It will be the same series. We have established no new series of publications at all.

Mr. WOOD. Under this appropriation there is also included a provision for the publication of the report of the American Historical Association.

Mr. WETMORE. Yes, sir; the entire amount is included in this lump sum.

Mr. WOOD. Suppose this \$15,000 is added to this appropriation, would the American Historical Association get the same amount as heretofore?

Mr. WETMORE. They would get \$7,000.

Mr. SANDLIN. Under the current appropriation they get \$7,000?

Mr. WETMORE. Yes, sir. The cut of \$15,000 was simply distributed among the various items.

Mr. WOOD. Was anything said about deferring this printing to the Bureau of the Budget, or did they realize the condition that this cut would leave your publications in?

Mr. WETMORE. The matter of publications was explained to them, as I have explained to you.

Mr. DORSEY. It was explained fully to them; yes, sir.

Mr. SANDLIN. As I understand it, they gave you a maximum amount?

Mr. WETMORE. Yes, sir.

Mr. SANDLIN. How far behind are you with your annual reports?

Mr. DORSEY. We are just as close up with them as we can be. The 1924 report is out and the 1925 report is in page proof. Being fiscal year reports, we can not keep them up to calendar date, but we do so as nearly as possible. It takes an enormous amount of time to select, arrange, and print the collections of articles they contain.

Mr. WOOD. In 1923 your appropriation for printing and binding was \$77,400, and you had the same amount for 1924. Were you getting all these publications out then?

Mr. DORSEY. Yes, sir; but printing costs were less then than now. A dollar went further in printing then than it does now.

Mr. WOOD. Has there been a 20 per cent increase in the cost of printing?

Mr. DORSEY. It has been more than that. The price of paper and everything else has gone up.

Mr. WETMORE. The cost of printing has almost doubled in the last eight years.

Mr. WASON. You do not mean to say that the cost of printing alone has almost doubled, but you mean that the total cost has almost doubled.

Mr. WETMORE. I mean to indicate that the actual cost of production, including materials and labor, has practically doubled.

Mr. WOOD. Is there any need for any change in this language in reference to traveling expenses?

Mr. WETMORE. No, sir.

#### CONSTRUCTION OF A STEEL GALLERY

Mr. WOOD. My attention has been called to the fact that something was said about \$12,000 for a balcony.

Mr. WETMORE. I want to bring that out.

Mr. WOOD. In what item is that?

Mr. WETMORE. That should be put after the other items for the National Museum, just before the item for the National Gallery of Art. It would come in on page 120.

This is for the construction of a steel gallery over the west end of the main hall of the Smithsonian Building for the division of plants, and the amount estimated as necessary is \$12,500.

The National Herbarium, the collection of preserved plants in the National Museum, is housed on the second floor of the Smithsonian Building in a large, long hall. The collection at the present time includes over 1,200,000 specimens, housed in approximately 1,000 cases. Those cases fill up the entire available space in the room and crowd all the aisles, so it is difficult to get through there. The col-

lection has grown until table space used by those studying these plants has been filled up with additional cases, and the situation now is such that the material in the cases is so crowded together that it is difficult to add any new material of any kind. We attempt to hold additions to the collections down to as low a point as possible through the distribution of duplicate specimens. We receive about 100,000 plant specimens a year, of which between 25,000 and 50,000 are retained for the collection, and the remainder are sent out to other institutions.

Mr. WOOD. What do these specimens consist of?

Mr. WETMORE. They are dry specimens of plants. The collection is in constant use by men from the Department of Agriculture, as from the Bureau of Plant Industry, the Biological Survey, and the Forest Service. Then, too, men make use of the collection who come here from other institutions—from New York, from Cambridge, and from other places—and a good many come from abroad. Our staff are constantly occupied in identifying specimens and carrying on research in connection with these specimens. We have reached the absolute limit of storage with our present space.

Mr. WOOD. What is the practical side of that work?

Mr. WETMORE. That is in its relation to agriculture. The collection of grasses alone is of tremendous value. Most of our valuable food plants are of a grasslike nature; such as corn and wheat.

We have no available space for use of these collections in any other room or hall. There is no other space in the institution which can be assigned to this collection; that is, no additional space. Our only alternative is the construction of a steel gallery over half of this hall.

Mr. WOOD. What would that do to the building as it is now occupied? Would it interfere with the things you have in that room?

Mr. WETMORE. Not in the least; the room is very high.

Mr. WOOD. How would it affect your light?

Mr. WETMORE. The windows are high also. It would necessitate the use of artificial light on dark days, but otherwise it would not be disadvantageous. We plan a U-shaped balcony with a well in the center, with these cases arranged on a platform around the well.

Mr. WOOD. Are the walls heavy enough to support it?

Mr. WETMORE. Yes; we have had them examined. There has been made a tentative plan for erection of such a balcony. This item has been discussed for a number of years.

Mr. WOOD. Has it ever been proposed or discussed here before?

Mr. WETMORE. It never got this far.

Mr. WOOD. What are you doing now with this overflow?

Mr. WETMORE. It is not an overflow now. Everything is jammed absolutely full. We have reached the point where there will be an overflow. We want to build this gallery and remove a number of these cases, take them off of the floor of the hall and put them up above in this additional space.

Mr. WOOD. If this gallery is built how long would it be before you will have to have something more?

Mr. WETMORE. We hope it will care for the increase for 15 or 20 years.

Mr. WOOD. Suppose it is not built and no other provision is made to take care of this constantly accumulating stuff; what will happen?

Mr. WETMORE. It will mean the deterioration of the collection as

in case more material is put in it will cause the crushing of the other material; unless space is provided there must soon be absolute cessation of activity in the gathering of this highly valuable collection. We have now one of the finest representations in the world of the plants of North and Central America, and material is coming in now from South America. All of that material just now is of economic value through the information it brings.

Mr. WOOD. Have you any Jerusalem artichokes there?

Mr. WETMORE. Yes, sir. You perhaps know about the chicle industry. Chicle is obtained from gums taken from trees in Central America, mainly from Guatemala and southern Yucatan. The men engaged in this industry until recently have not known what gums yielded the most valuable element. They did not know until our men who work on this collection of plants ascertained it for them. Heretofore they had been simply taking the gum indiscriminately and discarding the worthless part. Now they are able to make a selection intelligently, through knowledge of the tree or trees that yield the valuable article.

The condition in our herbarium is this. We have a small staff working on this large collection. They are very efficient, but they are so crowded now that they are greatly hampered in their work, and with further crowding the volume of work that can be produced will be greatly decreased, while in addition to that there will be the deterioration of the collection through crowding.

Mr. WOOD. After you have made your experiments does not a lot of that stuff become refuse?

Mr. WETMORE. No, sir, it is filed away for further studies. These plants are on sheets and they are simply put away, so that later on other men may come along and check up on the results of what has already been done, or may carry on new researches. Often someone sends or brings in a specimen that he does not know. Through this collection the plant can be named or we can show the sheets and compare the specimens.

Mr. WOOD. Is there any limit to the time within which they are useful? Is there any time, after they have been used, when they will be of no account.

Mr. WETMORE. No; these things which are put into the collection are intended for permanent preservation. They are there for all time. We take out the duplicate specimens. We frequently get a large number of specimens from one locality. We will select a typical example to go into the permanent collection, and the duplicates are sent out to other institutions.

Mr. WOOD. Suppose they discover a new grass in South America, and send you a lot of specimens, and you file a specimen away. What good will that be 100 years from now?

Mr. WETMORE. One hundred years from now some one may want to know what the exact form of that grass was when it was discovered, and by consulting the specimens that we have on file, he can tell. If the grass has been cultivated, it may change tremendously. There may be a question 100 years from now as to just what it was in its original form. Some one may want to go to the original locality to get some more of the original stock, and this specimen filed in the herbarium will serve then to show the original form and its source. For instance, in the case of the potato, these specimens show that the



present white potato is very different from the small one found in the mountains of the Andes. The herbarium serves as a valuable reference collection.

Mr. WASON. How large a space will this addition occupy?

Mr. WETMORE. This is the plan of the room [exhibiting plan]. This gallery is superimposed upon the main floor. This is the wall and the stairway [indicating], and you will see how the cases are arranged.

Mr. WOOD. How far would it be above the main floor?

Mr. WETMORE. About 12 or 15 feet. These cases are placed two tiers high.

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MONDAY, FEBRUARY 8, 1926.

## FEDERAL BOARD FOR VOCATIONAL EDUCATION

### STATEMENTS OF J. C. WRIGHT, DIRECTOR; C. F. M'INTOSH, AND E. T. FRANKS, MEMBERS OF THE BOARD, AND E. JOSEPH ARONOFF, SECRETARY

#### VOCATIONAL EDUCATION

Mr. WOOD. Have you any general statement you desire to make?

Mr. WRIGHT. I have a general statement, but I would prefer first to answer any questions the members of the committee may care to ask.

Mr. WOOD. You have certain permanent appropriations provided for. Have you anything to say with reference to what you are doing under these permanent appropriations?

Mr. WRIGHT. Nothing, except that all the 48 States have accepted the benefits of those appropriations, and they are using them up to about the maximum.

#### COOPERATION OF THE STATES

Mr. WOOD. Tell us about the cooperation of the States, as to the degree in which they are cooperating, and what percentage of these appropriations they furnish?

Mr. WRIGHT. The States are expending about \$2.73 of State and local money for every dollar of Federal money which they receive.

Mr. WOOD. Does the allocation apply in the same way to all these States; does each State have to furnish the same amount as all the other States in order to get money from the Federal Government?

Mr. WRIGHT. The allotments of Federal money to the States are made on the basis of the ratio of their population to the total population of the United States. Thus the amounts vary.

Mr. WOOD. How do they vary?

Mr. WRIGHT. The minimum is \$10,000 for any one State, and the maximum runs to \$398,640.92 for the State of New York.

Mr. WOOD. In the case of a State where the minimum amount is \$10,000, what amount would that State furnish?

Mr. WRIGHT. The State would furnish not less than an additional sum of \$10,000.

Mr. WOOD. They can not furnish less, but they may furnish more than the Federal Government.

Mr. WRIGHT. Yes; they do furnish a good deal more.

Mr. WOOD. Can you give us some idea as to what the various States furnish? You say one State furnishes one amount and another State furnishes a different amount. Can you tell us about those amounts?

Mr. WRIGHT. Will it be satisfactory if I give you that information in the case of agriculture, as an example?

Mr. WOOD. Yes.

Mr. WRIGHT. In the field of agricultural education, a total amount of \$2,262,542 of Federal money was expended during the year 1925. In the State of Alabama the amount of Federal money expended was \$86,767.14, and the amount of State, and local money expended was \$106,753.78.

Mr. WOOD. You have given us the figures for agriculture in the case of Alabama. Are there any other States which give more than dollar for dollar for this agricultural work?

Mr. WRIGHT. Yes. The State of Ohio was allotted \$101,270.26 for agriculture and expended \$88,138.50. It expended from State and local funds the total sum of \$252,918.10.

The total amount of State and local money expended for agriculture in all States was \$3,887,697, which was matched against \$2,262,542 of Federal money for the year 1925.

Mr. WOOD. I expect you had better give us a statement showing the Federal allotments and the State and local allotments under the appropriations for agriculture, the trades and industries, and the training of teachers.

Mr. WRIGHT. We can give you that statement.

(The statement above referred to is as follows:)

*Total expenditures from Federal money compared with expenditures from State and local money for the year ended June 30, 1925, by States for all forms of vocational education under the Smith-Hughes Act*

	Expenditures from Federal money	Expenditures from State and local money	Expenditures from State and local money in excess of ex- penditures from Federal money
Total.....	\$5,614,540.12	\$15,307,224.08	\$9,692,683.96
Alabama.....	126,287.51	208,453.56	82,166.05
Arizona.....	30,536.01	93,773.07	63,237.06
Arkansas.....	97,108.52	103,777.58	6,669.06
California.....	192,636.91	970,695.33	778,058.42
Colorado.....	54,521.69	230,442.61	175,920.92
Connecticut.....	71,255.23	192,309.00	121,053.77
Delaware.....	25,537.98	66,982.48	41,444.50
Florida.....	51,315.89	94,696.14	43,380.25
Georgia.....	159,656.13	160,120.49	464.36
Idaho.....	29,523.21	44,472.42	14,949.21
Illinois.....	342,719.70	1,039,752.33	697,032.63
Indiana.....	167,053.64	561,791.60	394,737.96
Iowa.....	113,171.70	199,080.13	85,908.43
Kansas.....	72,635.44	312,478.97	239,843.53
Kentucky.....	114,600.65	117,393.63	2,792.98
Louisiana.....	83,175.74	154,654.22	71,478.48
Maine.....	28,820.60	33,619.39	4,798.79
Maryland.....	62,294.53	83,423.33	21,128.80
Massachusetts.....	208,122.29	1,756,205.92	1,548,083.63
Michigan.....	197,626.54	550,173.44	352,546.90
Minnesota.....	127,562.31	327,350.75	199,788.44
Mississippi.....	103,561.05	155,456.68	51,895.63
Missouri.....	190,014.54	367,622.76	177,608.22
Montana.....	36,922.03	58,133.33	21,211.30
Nebraska.....	66,358.03	154,095.96	87,737.93



